1	IN THE CIRCUIT COURT OF OHIO COUNTY
2	WEST VIRGINIA
3	
4	IN RE: TOBACCO LITIGATION :
5	:
6	: CIVIL ACTION NO.
7	(MEDICAL MONITORING CASES): 00-C-6000
8	
9	
10	
11	Deposition of JACK EDWARD HENNINGFIELD,
12	taken on Wednesday, August 23, 2000, at 9:01
13	a.m., at the law offices of Piper, Marbury,
14	Rudnick & Wolfe, 6225 Smith Avenue, Baltimore,
15	Maryland, before E. Duane Smith, Notary Public.
16	
17	
18	
19	
20	Reported by:
21	E. Duane Smith, RPR-CRR
	COURT REPORTING CONCEPTS, INC.
	Baltimore, Maryland
	Phone (410) 821-4888 Fax (410) 821-4889
	2
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16
17
18
19
20
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                     Baltimore, Maryland
         Phone (410) 821-4888 Fax (410) 821-4889
                    PROCEEDINGS
1
      Whereupon, --
               MR. KNOPF: Ken Knopf of Pullin, Knopf,
      Fowler & Flanagan, on behalf of Liggett Group.
               MR. LONG: Scott Long on behalf of
5
6
      plaintiffs, Hendrickson & Long.
7
               MR. HOGAN: Robert Hogan, Farrell,
      Farrell & Farrell, Lorillard.
8
9
               MS. CALLAS: Gretchen Callas with
10
      Jackson & Kelly for Brown & Williamson.
               MS. HILL: Gabrielle Hill from Densmore
11
      & Shohl on behalf of Brown & Williamson.
12
13
               MR. FURR: My name is Jeff Furr. I'll
      be taking the deposition on behalf of R.J.
15
      Reynolds; and I want to begin by saying hello to
16
      my old friend Scott Long, who I have not seen for
17
      a long time.
18
               MR. LONG: Who was that? I did hear my
19
      name. Who is talking?
20
               MR. FURR: This is Jeff Furr, and I
21
      wanted to begin by saying hello to Scott.
               COURT REPORTING CONCEPTS, INC.
                     Baltimore, Maryland
         Phone (410) 821-4888 Fax (410) 821-4889
               MR. LONG: How are you?
1
               MR. FURR: Fine.
               MR. LONG: Look forward to seeing you.
3
               MR. FURR: We'll see each other sooner
               MS. MOORE: I'm Alecia Moore with Womble
```

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Carlyle.
 8
               MR. NEWBOLD: Bill Newbold, Thompson
9
      Coburn, for Lorillard.
10
               MR. KLEIN: Sam Klein, Dechert, Philip
11
      Morris.
12
               MR. WOOLSON: Peter Woolson, Robinson
13
      Woolson O'Connell on behalf of Liggett.
               MR. MINTON: Mike Minton, also for
14
15
      Lorillard.
16
               MR. GRUENLOH: Mike Gruenloh with Ness
      Motley on behalf of plaintiff.
17
               MR. FURR: Can you swear the witness,
18
19
      please?
20
                     STIPULATIONS
21
               It is stipulated and agreed by and
               COURT REPORTING CONCEPTS, INC.
                     Baltimore, Maryland
          Phone (410) 821-4888 Fax (410) 821-4889
      between counsel for the respective parties that
      the filing of this deposition with the Clerk of
      Court is hereby waived.
                  JACK EDWARD HENNINGFIELD,
 5
 6
      being first duly sworn to tell the truth, the
 7
      whole truth, and nothing but the truth, testified
 8
      as follows:
9
               EXAMINATION BY MR. FURR:
            Q. Good morning, Dr. Henningfield.
10
           A. Good morning.
11
12
            Q. State your name for us, please?
13
           A. Jack Edward Henningfield.
14
           Q. Dr. Henningfield, you have been deposed
      a number of times in cases related to smoking
      and health; is that correct?
16
17
            A. That's correct.
18
            Q. Do you have a general understanding of
      the manner in which depositions are conducted?
19
           A. Yes, I do.
20
21
            Q. If I ask you a question today that you
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                     Baltimore, Maryland
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      are not certain you understand, let me know and
 2.
       I'll try to rephrase the question for you.
 3
           A. Okay.
           Q. Do you have any constraints on your time
 5
      today?
 6
           A. No.
 7
           Q. Dr. Henningfield, I have reviewed your
 8
      prior transcripts, but I'm unclear as to how many
9
      times you have actually testified at trial in
10
      smoking and health cases. I am aware of your
11
      testimony in the Washington Attorney General's
12
      case and in the Marcie case in Oklahoma. My
      question is: Have you testified at trial in any
13
14
      smoking health cases other than those I have
15
      mentioned?
16
           A. No. I have not.
17
                   (Whereupon, Henningfield Deposition
18
      Exhibit No. 1, notice, marked.)
19
           Q. Dr. Henningfield, let me hand you what
```

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20
      is marked as Deposition Exhibit 1, ask you
21
      whether you have seen that document before.
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         Phone (410) 821-4888 Fax (410) 821-4889
           A. I don't believe that I have seen this
      document.
           Q. You will notice that attached to your
      notice is a schedule of documents in which you
4
5
      are requested to bring with you today certain
      documents?
6
7
           A. Yes.
           Q. Have you seen the schedule of documents
8
9
      prior to my handing it to you?
10
           A. Yes. I have received it the afternoon
      of the 21st.
11
12
           Q. Have you brought documents with you
13
      today that you believe to be responsive to the
14
      requests contained in the schedule of documents?
           A. Yes, I have.
15
           Q. Let me ask you to -- we'll go through
16
17
      these in order. Let me ask you to hand to me any
18
      documents you have that are responsive to request
19
      number one in the schedule of documents.
20
           A. This first document is the only one that
      I have extra copies. The other things I will
21
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                                                     10
      need a copy made today. We had a turnover in our
1
      staff and I was unable to get things copied
      yesterday. This is my curriculum vitae, and on
4
      page --
5
           Q. Let me stop you, just so that we are all
      clear what we're talking about. My first
      question to you is: With respect to request
7
      number one in the schedule of documents, which is
8
9
      a list of all the cases in which you have
10
      testified as an expert at trial or by deposition?
11
           A. Yes. And this is provided on page
      eight, where it listed as an expert witness or
12
13
      consultant on behalf of plaintiffs, and I realize
      looking at this, that it didn't differentiate
15
      which cases were trials, so I will circle those
      two. Marcie was listed earlier.
16
17
               MR. FURR: Mark this as Exhibit 2.
18
                  (Whereupon, Henningfield Deposition
19
      Exhibit No. 2, CV, marked.)
20
           Q. Dr. Henningfield, the request number
21
      three on the schedule of documents is: Bring with
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                     Baltimore, Maryland
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                                Fax (410) 821-4889
      you any and all documents that you relied upon
      and reviewed in forming your opinions that you
      will render in the case.
               Have you brought with you any documents
5
      responsive to that request?
       A. I have brought two documents, because
      these are the only two documents that are new
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8 documents that I have retrieved just specifically 9 for the purposes of today's deposition. All of the other documents that I have 10 11 are documents that we discussed in various depositions in the Washington trial and so forth. 12 13 But I will give you the two documents that I reviewed specifically for this deposition. 14 15 These are two Centers for Disease 16 Control MMWR reports, and again I'm sorry, but I'll have to see if we can get copies of those 17 made today, so I can bring them back with me. 18 19 MR. FURR: Mark these as 3 and 4, 20 please. 21 (Whereupon, Henningfield Deposition COURT REPORTING CONCEPTS, INC. Baltimore, Maryland Phone (410) 821-4888 Fax (410) 821-4889 12 Exhibit No. 3, MMWR Weekly report, dated 11/6/98 marked.) 3 (Whereupon, Henningfield Deposition Exhibit No. 4, MMWR weekly report dated 11/19/99, 5 marked.) 6 Q. Dr. Henningfield, we have marked as 7 Exhibit 3 an MMWR weekly report from November 6, 8 1998, titled State Specific Prevalence Among Adults of Current Cigarette Smoking and Smokeless 9 Tobacco Use and Per Capita Tax-Paid Sales of 10 Cigarettes, United States 1977, correct? 11 12 A. Correct. 13 Q. That's one of the documents you brought 14 with you in response to request number three, 15 correct? 16 A. Correct. Q. For what proposition do you rely upon 17 18 this document with respect to your opinions in 19 this case? 20 A. It provides a snapshot comparison of 21 smoking prevalence in states in the United COURT REPORTING CONCEPTS, INC. Baltimore, Maryland Phone (410) 821-4888 Fax (410) 821-4889 13 States, and these data come up to 1998 and it allows me to put West Virginia in context with 3 other states. 4 Q. Could you elaborate upon what opinions 5 you are prepared to express in this case for 6 which you intend to put West Virginia in context 7 with respect to the other states? 8 A. The most important thing would have been 9 to determine if West Virginia were, for example, 10 an extraordinary outlier in the sense of showing 11 rapidly declining prevalence or very low 12 prevalence, which would have been interesting to 13 me, which would have possibly reflected efforts 14 to decrease smoking prevalence. 15 Q. But this document does not show that, 16 does it? 17 A. No. The document does not show that. 18 Q. What opinions do you hold that this 19 document either tends to support or alters, or 20 how will you rely upon this information in your

that.

Q. Do you have any information with respect to whether or not the cigarette manufacturers have marketed their products in West Virginia any differently than they have marketed them elsewhere? By that, I mean either whether the advertising has been heavier or has utilized

5

6

7

9 different themes and whether marketing of 10 cigarettes in West Virginia has been any 11 different than in other states in the United 12 States? A. I'm not aware of specific differences. 13 14 Q. In general, to what do you attribute the, what you believe to be the decreased 15 16 quitting rates among smokers in West Virginia 17 compared to other states? 18 A. I'm not prepared to tell specifically 19 why. I can discuss the kinds of factors that we 20 know affect prevalence of quitting, and that I 21 would expect would apply to West Virginia. But COURT REPORTING CONCEPTS, INC. Baltimore, Maryland Phone (410) 821-4888 Fax (410) 821-4889 17 1 there are many factors, and so if I mention some, it would be a mistake to assume that this is it. Would you like me to mention some? Q. Yes. I would, and I understand your answer, but my question is: Let's begin generally 5 and maybe you can tell us what the factors are 7 that you believe to affect quitting rates that 8 you also believe or at least have no reason to 9 believe do not apply to West Virginia? 10 A. Sure. One important factor in 11 influencing quitting rates is a strong, consistent message that smoking is harmful and an 12 13 understanding and belief of smokers that that is 14 true. 15 In other words, if they are getting in 16 the opposite case a mixed message, or if that health message is strongly countered by tobacco 17 industry marketing, for example, that constitutes 18 19 a mixed message. 20 In the extreme case, events such as The 21 Great American Smokeout nationwide produce an COURT REPORTING CONCEPTS, INC. Baltimore, Maryland Phone (410) 821-4888 Fax (410) 821-4889 18 increase for at least a few days in quitting rates, because of the strong message, so that is an important factor. 4 Another factor is the accessibility of 5 treatment options. And by "accessibility" it is 6 not just is it possible to get treatment, but how 7 difficult is it to get treatment and how 8 expensive is it relative to your income. 9 I know from other readings that West 10 Virginia is a lower per capita income state than 11 many states, and that is consistent with an 12 interpretation that treatment would be relatively 13 speaking more expensive. It is also a state with 14 a diverse rural population, and, again, what we 15 know from our experience, smoking cessation 16 clinics, is that that means that there are 17 almost -- are extremely likely less convenient 18 opportunities for West Virginians to obtain help 19 in quitting smoking, if they so choose, so there 20 are a number of things like this that affect 21 trends in quitting.

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Q. Any other general factors you want to list that you would expect to be in play in West Virginia in affecting the quitting rates?

- A. Well, as I mentioned, marketing of tobacco product sales is all always a factor that is important. As to whether there are marketing techniques that have been used in West Virginia that are unique to that state, I'm not prepared to state, because I'm not aware of any.
- Q. Do you have any reason to believe that the message that smoking is a dangerous and risky behavior has been disseminated in West Virginia any differently than it has been in other states?
- A. Well, what I just mentioned about the fact that it has a substantial rural population and lower per capita income than some states, means that whatever health message that is out there is more easily overwhelmed by tobacco industry advertising.

I haven't done an analysis to determine the amount of money spent in West Virginia for COURT REPORTING CONCEPTS, INC.

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advertising versus the amount that is available by the health authorities for disseminating their message, but it would be consistent with that.

- Q. Have you made any study whatsoever, of the manner or frequency with which the message that smoking is a dangerous and risky behavior has been historically disseminated in West Virginia?
 - A. No.

2.1

- Q. Do you have any information with respect to whether or not West Virginia citizens have any different rate with respect to holding the belief that smoking is a dangerous and risky behavior than do citizens of other states?
- A. Well, we have evidence that bears on that. And it is the evidence where the rubber hits the road, which is their smoking prevalence. And drug addictions in general, an understanding of harm and a strong, consistent understanding of the harm and the damage is one factor that is correlated with trends in drug abuse.

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Q. I understand that you believe this to be a factor, but really my question is: Is there any empirical evidence, for example, have West Virginia citizens been polled and has there been a finding that a fewer percentage of West Virginians hold the belief that smoking is a risky and dangerous behavior than do citizens of other states?

MR. GRUENLOH: Objection to form.

10 A. There is empirical evidence, and, again, 11 it is the most empirical evidence in one sense 12 and that is the smoking prevalence. 13 Q. Okay. As you know, there have been many polls conducted over time, with respect to the 15 prevalence among the citizens of the United States of certain beliefs about smoking and 16 17 health, correct? 18 A. Correct. 19 Q. Do you have any information with respect 20 to whether or not the citizens of West Virginia 21 hold the belief that smoking is a dangerous and COURT REPORTING CONCEPTS, INC. Baltimore, Maryland Phone (410) 821-4888 Fax (410) 821-4889 risky behavior to any lesser extent than citizens 1 2. of other states? 3 A. Again, I have the most important information which is their smoking prevalence. As to specific comparative polls of beliefs, I haven't reviewed such data. 6 Q. When you listed accessibility of 8 treatment options as a factor that might 9 influence the quitting rates in West Virginia, 10 what treatment options were you referring to? A. This would be behavioral and group kinds 11 of clinics, such as American Lung Association, 12 13 American Cancer Society, and other voluntary 14 organizations, which are most typically set up in 15 cities, and over-the-counter medicines like 16 nicotine gum and patch and the prescription 17 medicines. Q. What percentage of people in the United States that quit smoking utilize some form of 19 20 group therapy, such as those that you just 21 described, in their cessation efforts? COURT REPORTING CONCEPTS, INC. Baltimore, Maryland Phone (410) 821-4888 Fax (410) 821-4889 A. A small but increasing percentage. The target is moving and I don't recall the exact 3 numbers. The overall percentage has historically 5 been smaller because there wasn't frequent availability. Now that there is increasing 6 7 treatment availability, the percentage is 8 increasing. 9 Q. Can you give us a ballpark? 10 A. Oh, it used to be, at one point, a 11 decade or so ago, it was probably less than one 12 or two percent. It is probably moving closer to 13 10 percent with some kind of treatment 14 assistance. 15 So the numbers are still low, but it is 16 frankly an extraordinary increase. Q. What percentage of smokers in the United 17 18 States that quit smoking utilize some form of 19 nicotine supplementation or replacement therapy 20 in their cessation efforts? 21 A. I don't know the exact percentage. COURT REPORTING CONCEPTS, INC.

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Q. Can you give us a ballpark on that?
```

A. Probably more than one, less than 10 percent, but that is as small a ballpark as I would be willing to speculate on.

Put it this way: Going beyond that would be speculation at this time.

- Q. We marked as your Deposition Exhibit 4 an article that you brought entitled State Specific Prevalence of Current Cigarette and Cigar Smoking Among Adults, United States, 1998, correct?
 - A. Correct.

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- Q. That's another of the articles you brought with you responsive to request number three on the schedule of documents, correct?
 - A. Correct.
- Q. Have you utilized the information contained in this document in the same manner as you utilized the information contained in Exhibit 3?
 - A. Yes.

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- Q. Are there any differences with respect to the way you have relied upon the information contained in Exhibit 4 than we just discussed about for Exhibit 3?
 - A. May I just for 30 seconds look at the two documents?
 - Q. Sure.
 - $\ \mbox{A.}\ \mbox{Because there were similarities and differences.}$

Let's see, over the last few minutes, we have been discussing Exhibit 3, correct?

- Q. Correct.
- A. Exhibit 4 is similar, but the focus is on cigar smoking. I don't recall that Exhibit 4 talks about smokeless tobacco, but Exhibit 4 also is one year more recent. And the purpose was not to do a thorough analysis of smoking in West Virginia, but, again, to get the perspective from the Centers of Disease Control as to what the numbers looked like and what directions they were moving in.

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26

- Q. Well, let me ask you that question: What direction are the numbers moving in?
 - A. Well, there is a slight increase in smoking prevalence from the 1997 to the 1998 data, I believe from about 27.3 or 4 percent to 27.8 or 9 percent. It is not a big change. It is a small change in the wrong direction from a public health perspective.
 - Q. Do you have any information with respect to whether, and if so in what direction, the

11 smoking prevalence in West Virginia has changed 12 since 1998? 13 A. I don't have data that are more recent. 14 The reason I selected those years first, I did not have in my file a more recent snapshot, 15 16 though it is possible that CDC does have the 1999 data, and I just didn't have it. 17 18 But those years were of interest to me, 19 since they were during the period that supposedly the tobacco industry has been changing its ways 20 21 and it was interesting for me to see if there was COURT REPORTING CONCEPTS, INC. Baltimore, Maryland Phone (410) 821-4888 Fax (410) 821-4889 1 any change in smoking prevalence that reflected 2 the claims of the industry that they are changing 3 their ways. Q. How has the prevalence of smoking in West Virginia changed since the early 1950's? 6 A. In the early 1950's, the rates were much higher. I don't know the exact percentage offhand, but I believe that they were changed in 7 at least two general and important ways. 9 10 One is the relative proportion of women 11 smoking has increased relative to men. 12 And the second is that the overall prevalence is lower than it was in the 1950's. 13 Q. Would you expect the overall prevalence 14 15 of smoking in West Virginia in the early 1950's 16 to have been about 50 percent of adults? A. In that ballpark. 17 Q. And so in round numbers at least, the 18 19 current prevalence of smoking in West Virginia is 20 probably about 50 percent of what it was in the 21 early 1950's, correct? COURT REPORTING CONCEPTS, INC. Baltimore, Maryland Phone (410) 821-4888 Fax (410) 821-4889 2.8 A. Well, put another way, there was a jagged, my recollection is, that West Virginia, 3 again, I have looked at records in the past, and again what I am basing this on is that I 4 regularly review trends and one of the things 5 6 that I do when I review trends in the nation is 7 look at states to see if there are strong 8 outliers. In general the main way that West 9 Virginia has been an outlier is that it has 10 reflected national trends, but, if anything, the 11 rates of smoking are generally a little higher 12 than the national trend. 13 Having said that, since the 1950's, 14 rates have generally declined in West Virginia, 15 it hasn't been a smooth, steady decline that 16 reflected events such as the 1964 Surgeon 17 General's Report. I believe that the lowest levels, or that the point at which levels more or 18 19 less flattened out, was in about 1990 to 1992, 20 and that little progress has been made since 21 then. COURT REPORTING CONCEPTS, INC.

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29
            Q. Okay. I appreciate the explanation.
 1
 2.
      But really my question is: Would you expect that
      at least in ballpark numbers the current
      prevalence of smoking in West Virginia is about
      half what it was in the 1950's overall?
            A. The overall, and by that, you are
 7
      putting men and women in the same --
           Q. Correct.
 8
9
            A. If you put men and women in the same
      category, that's in the ballpark.
10
            Q. You identified one of those events, that
11
12
      being the release of the Surgeon General's report
13
       in 1964.
14
                What are the events that you believe to
15
      have driven the change in smoking prevalence in
      West Virginia since the early 1950's?
16
17
           A. On the side of pressures to decrease
18
      smoking are health-related events, such as the
19
      1964 Surgeon General's Report.
20
                On the side of pressures to mitigate
21
      that health message and either slow the decline
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       if not stall the decline are factors such as the
 1
      Marlboro Friday price reduction in 1993, the
      discount brands of cigarettes that make cost less
 4
      of a factor or reduce the importance cigarette
 5
      taxes as factors to decrease smoking, the
 6
      messages from the tobacco industry to undermine
 7
      or confuse the health messages that were coming
 8
      out.
 9
                So these are some of the factors that I
10
      believe have been operative.
            Q. Well, let's start on one side of the
11
      ledger, and that is the factors that have tended
12
13
      to influence smoking prevalence to decrease. You
14
      identified the release of the 1964 Surgeon
15
      General's Report, correct?
            A. Correct.
16
            Q. How and why would that have affected
17
18
      smoking prevalence in West Virginia?
19
           A. To the best of my knowledge, West
20
      Virginians like people elsewhere in the United
21
       States care about their health and act to some
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                      Baltimore, Maryland
          Phone (410) 821-4888
                                 Fax (410) 821-4889
                                                     31
      degree on health messages, and the 1964 Surgeon
 1
      General's Report was a loud wakeup call with
      messages that were front line on the newspapers,
      that there was a serious danger posed by smoking
 5
      and this was associated with a decline in smoking
 6
      prevalence for at least a couple of years
 7
      nationwide and I believe, I don't know the
 8
      precise numbers in West Virginia, but in West
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Q. Was there a decrease in smoking

prevalence in West Virginia in the early 1950's,

Virginia as well.

9

10

11

12 when the first of the major epidemiologic studies 13 of smoking and health were released and 14 publicized? 15 A. I believe that then we began to see a decrease in overall prevalence within the 1950's. 16 17 I believe it was not until the late 1950's, but I would have to verify that with the numbers. 18 19 In women, the patterns were different, I 20 believe, that women were either not showing the 21 decrease or during that period possibly still COURT REPORTING CONCEPTS, INC. Baltimore, Maryland Phone (410) 821-4888 Fax (410) 821-4889 32 showing an increase. Q. Was there a decrease in smoking 3 prevalence among the citizens of West Virginia in 4 the 1950's, when the mouse skin painting studies 5 were published in the scientific literature and 6 received wide publicity? 7 A. I don't know which year in West Virginia we began to see changes in trends, and I would 8 have to go back and review those data. 9 Q. Were there decreases in smoking 10 prevalence among the citizens of West Virginia 11 12 when the warning labels were first placed on the side of cigarette packages? 13 A. Again, I would have to review the 14 15 year-by-year numbers for West Virginia. The only 16 specific year-by-year numbers I have stated are 17 those in the last four years from records that I 18 have just reviewed. I have such data and it is retrievable. 19 20 I can discuss the general trends, as we have 21 been. But as to putting a specific number with a COURT REPORTING CONCEPTS, INC. Baltimore, Maryland Phone (410) 821-4888 Fax (410) 821-4889 33 1 specific event on a specific date, I don't want to imply that I know what the number is and what 3 the year was. Sometimes there is a lag time. Q. Have you made any study of the decreases 5 6 in smoking prevalence in West Virginia since the 7 early 1950's and attempted to correlate those 8 decreases with external events that might have 9 influenced them? 10 A. I have done that at a general level by 11 looking at nationwide trends, and then within the nationwide trends, there are often specific state 12 data. In some cases, we have extensive state 13 data, and in some cases we have less extensive. 14 15 The two documents I brought from the Centers for 16 Disease Control, are examples of those kinds of 17 data that look at nationwide trends and then look at the numbers for specific states. 18 I have reviewed such data for the United 19 States; and, again, as I have done that over many 20 21 years, one of the things that I have always COURT REPORTING CONCEPTS, INC. Baltimore, Maryland Phone (410) 821-4888 Fax (410) 821-4889

attended to is where there are outlier states, because we learn something from the outliers.

Q. I have asked you as best you can today to identify for me the major events that have influenced smoking preference among West Virginia citizens in a manner that tended to decrease that prevalence.

You have identified for me the 1964 -- the release of the '64 Surgeon General's Report.

Are there any other major events that you can identify that would have influenced smoking prevalence in that manner?

A. The stream of health-related information that followed the 1964 Surgeon General's Report, I believe, was an important factor in the general decline in prevalence over the 1970's and 1980's.

So it is not -- I have singled out the 1964 report, but there were reports, as you mentioned before then that had some effect. There have been Surgeon General's reports and other health messages and the beginning of other COURT REPORTING CONCEPTS, INC.

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events such as the Great American Smokeout and the American Cancer Society, that have had an increasing influence over the years.

There have been events such as the marketing of the nicotine gum in the mid 1980's that was associated with an acute bump in apparent increased quitting.

Similarly in 1992, with the messages to quit smoking with the nicotine patch marketing.

So there are a lot of different kinds of events. I think it is a mistake to ignore any of them. It is a mistake to assume that any one of those explained trends that we see over several years or a decade or more.

Q. I take it, Dr. Henningfield, that theme underlying your answer is that when people are made aware of the health risks of cigarette smoking, that tends to influence the likelihood of their stopping smoking; is that correct?

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A. It influences the likelihood of their trying to stop smoking. And a number of tries is an important determinant of how many people make it.

It unfortunately does not, by itself, increase their resources to be able to stop smoking, and that is one of the important missing links that, until recent years, has been largely absent.

And I think that West Virginia, if anything, has fewer resources than states such as Massachusetts or California, where there have

```
13
      been stronger, higher levels of resources to
14
      provide help for people.
15
           Q. As in many endeavors in life persistence
16
      is important when attempting to quit smoking,
      isn't it?
17
18
           A. As in many endeavors in life.
           Q. The likelihood of decreasing smoking
19
20
       increases with repetitive efforts to quit?
            A. The likelihood of being a nonsmoker is
21
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      associated with how many tries a person has made,
      and that is where the importance of consistent
      health messages that are not confused by counter
 4
      messages from the tobacco industry are important.
 5
           Q. The average smoker who successfully
 6
      stops smoking requires four to five serious quit
 7
      attempts, correct?
 8
           A. That's in the ballpark. Again, the
      reason I say in that ballpark, that is a number
9
10
      that I myself have used. It is worth qualifying
11
      it as to how you define serious effort.
12
               I think that those numbers, if any, are
13
      conservative under statements of how many times
      people actually try to quit. But for the
14
      purposes of many surveys, a 24-hour success
15
16
      becomes an objective definition of serious.
17
      Again, the reason that under states it is I have
18
      known myself people that made what they
19
      considered to be an absolutely serious effort,
20
      and they could not even make it 24 hours.
            Q. To clarify, in many of the scientific
21
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      surveys that had been done, the benchmark that
 1
      scientists have chosen to use to define a serious
      quit attempt is 24 hours of abstaining from
      smoking, correct?
 5
           A. Correct.
           Q. Now, in addition to persistence,
 6
 7
      motivation is an important factor, with respect
 8
      to the likelihood of success in stopping smoking,
9
      isn't it?
10
           A. Motivation is an important factor with
      all drug addictions, in the ability to stop drug
11
12
      use at all and the ability to sustain abstinence.
13
           Q. If you ask someone who is addicted to
      virtually any drug as to whether or not they
14
15
      would like to quit, they will tell you, yes, they
16
      would like to quit, won't they?
17
           A. It depends on how you ask the question
18
      and what the time frame is. It depends a lot on
19
      those things.
           Q. If someone tells you that they would
20
21
      like to quit using an addicting drug, how do you,
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                                                     39
```

as a professional in this area, evaluate the 2 sincerity of their intention or inclination to 3 stop using the drug? A. I'm not sure what you mean by sincerity. Q. If someone, if a patient will tell you I 6 would like to stop using a certain addictive 7 drug, how do you, as someone who is expert in 8 this area, evaluate how motivated or serious that 9 person is about attempting to stop using the 10 drug? 11 A. Well, it is a deceptively complicated 12 question. Because a lot of people have heard that there is a health risk, and I believe are 13 14 sincere about their desire to change their 15 behavior. 16 Acting on that desire is, by definition, 17 complicated by the presence of the drug. 18 And so in the absence of an absolutely 19 clear message from a health professional, with 20 the offering of resources to assist the person in 21 quitting, it is difficult to tell from their COURT REPORTING CONCEPTS, INC. Baltimore, Maryland Phone (410) 821-4888 Fax (410) 821-4889 behavior what their level of, to use your term, sincerity was. Q. Maybe this is not a fair line of 3 questioning for you. Let me get some further 5 background. 6 Do you actually have any practice in 7 which you work with persons addicted to nicotine 8 or any other substance in attempting to help them stop using the substance? 9 A. I'm a researcher in the area, and in the 10 course of my research, I have worked with and 11 12 studied many hundreds of individuals who are 13 cigarette smokers. 14 As part of that research, I have talked 15 to the volunteers. As part of that research 16 there is always the option not to participate in 17 the study at various times to provide some resource for quitting. I've also been involved 18 19 in clinical trials where I am working with people 20 that are on the bench level, the counselors, and 21 offering specific treatment. COURT REPORTING CONCEPTS, INC. Baltimore, Maryland Phone (410) 821-4888 Fax (410) 821-4889 41 What I do not do, as part of my professional activity, is specifically treat 3 individuals myself. So I have, I'm intimately 4 involved in that process, but I'm trying to 5 clarify the distinction here, I'm not sure if 6 that's helpful. 7 Q. I appreciate that. I want to be clear. 8 You do not currently have, and as I understand 9 it, have never had, any type of clinical practice 10 where individuals addicted to a substance came to 11 you personally for help in cessation for using 12 that substance? 13 A. Not professionally.

```
Q. When you say "not professionally" does
14
15
      that mean you have informally attempted to help
      them?
16
17
           A. Yes.
           Q. Can you explain that to me?
18
19
           A. Well, actually, there are two categories
      where I help people to quit. And the very direct
20
21
       category is on the informal side with an
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      individual who was asking for my guidance.
               On the formal side, and the reason I did
      not count this the way you framed your question,
      is that I teach professionals in methods of
 5
      smoking cessation therapy; and I am, I think it
 6
      is fair to say, internationally recognized, as a
 7
      teacher of how to help people quit smoking, and I
 8
      am paid for that, for those services.
9
               Again, it is a blurry area. It is not
10
      that I am not involved in the process, but I
11
      don't have a clinic where people come to me and
12
      pay me to help them quit smoking; but I teach in
13
      national and international settings health
14
      professionals as to the state of the art methods
      that are used to help people quit smoking and to
15
16
      treat tobacco addiction.
            Q. Other, I should say physicians or other
17
18
      health care providers, do not refer to you
19
      patients for assistance in smoking cessation or
      for helping them attempt to stop using other
20
21
      addictive drugs?
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            A. What they do on occasion is call me for
      specific advice, so the patient will remain under
 3
      their care, but I may get the call from the
      clinician as to what to do in a particularly
 5
      difficult or troubling case. The patient remains
      under that physician's or health professional's
 6
 7
      care, however.
 8
           Q. Here is what I am getting at. You know
      Dr. Neal Benowitz, don't you?
9
10
           A. Yes.
11
           Q. He is a friend of yours?
12
           A. Yes.
13
           Q. A colleague of yours?
14
           Α.
15
            Q. Obviously, you would respect him as one
16
      of the leading authorities in the world, I
17
      suspect, on the addictive products of cigarette
18
      smoking, wouldn't you?
19
           A. Yes.
20
           Q. I will represent to you that I have
21
      asked Dr. Benowitz in the past to identify for me
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      objective activities that a smoker can take that
```

are indications of their sincerity to stop 3 smoking, and he has pointed to things like 4 whether or not they solicit help and assistance 5 from their spouse and friends, whether or not they throw away their cigarettes, things like 7 8 On that issue, would you defer to 9 Dr. Benowitz? MR. GRUENLOH: Object to form. 10 11 A. I think that we both have expertise that 12 bears on that. I do not disagree with him. And 13 as I mentioned earlier, there are ways that you can look at sincerity. It is complicated when a 14 drug is in your body, and I believe that 15 16 Dr. Benowitz would tell you the same thing. Q. Let me ask you about the awareness of 17 18 the health risks of cigarette smoking in West 19 Virginia. 20 Have you made any study of the 21 prevalence with which West Virginians hold COURT REPORTING CONCEPTS, INC. Baltimore, Maryland Phone (410) 821-4888 Fax (410) 821-4889 45 certain beliefs about the health risks of 1 cigarette smoking? A. I have not done a comparative analysis for the purposes of this case. I have looked at 5 trends and attitudes in young people, over the 6 years, and my general conclusion has been that 7 West Virginia is generally similar to the United 8 States in its general trends; but, if anything, has somewhat higher levels of smoking prevalence 9 in adults and initiation in youth. 10 Q. As we already discussed, those higher 11 12 prevalences in current smoking and initiation 13 could be influenced by a number of factors, 14 correct? 15 A. Correct. 16 Q. Let me ask you a few questions about 17 factors that you identified as mitigating against decreasing smoking prevalence, and you mentioned 18 Marlboro Friday, didn't you? 19 20 A. Yes. 21 Q. Do you have any information that, in COURT REPORTING CONCEPTS, INC. Baltimore, Maryland Phone (410) 821-4888 Fax (410) 821-4889 fact, the prevalence of smoking in West Virginia 1 increased following Marlboro Friday? A. I would have to go back and look at the 4 numbers in the years following and the important 5 thing is not just the absolute number in the year, but numbers in the years immediately 7 preceding and following that event. 8 Q. You also mentioned the sale of discount 9 brands as a factor mitigating against decreases in smoking prevalence, didn't you? 10 11 A. Yes. 12 Q. I take it that your point on both of 13 these last two factors is that the demand for 14 cigarettes and the prevalence of smoking is

related to the price of cigarettes; is that 16 correct? 17 A. Yes, simply stated, the cost of the drug 18 is a factor in the use of that drug. Q. So it is your view that, I take it, that 19 20 it is your view that cigarettes should be made more expensive, correct? 21 COURT REPORTING CONCEPTS, INC. Baltimore, Maryland Phone (410) 821-4888 Fax (410) 821-4889 47 A. Correct. Q. How expensive do you think a pack of 2. 3 cigarettes should be for a West Virginia citizen that wishes to buy one? 5 A. I don't know. 6 Q. Do you have any ideas about what it 7 should be? 8 A. I believe that West Virginians would 9 benefit if cigarettes cost more, particularly if 10 some of those costs were then used to aid in discouraging young people from quitting and 11 12 aiding people that are smoking to quit. As to 13 what the specific amount is, that is something I am not prepared to tell you what a specific 14 15 number of cents increase would be or should be. 16 Q. What price increase do you believe would be necessary to have an important influence on 17 the prevalence of smoking in West Virginia? 18 19 A. Again, I won't issue a specific monetary 20 value, because the specific value depends upon 21 the manner in which it is implemented, how funds COURT REPORTING CONCEPTS, INC. Baltimore, Maryland Phone (410) 821-4888 Fax (410) 821-4889 are used, the options for the citizens, there are too many factors that lead me to the conclusion 3 that the exact value would depend upon many other 4 factors. 5 Q. Let me isolate one factor. What price 6 for a pack of cigarettes do you think would be 7 necessary to have a deterrent effect on current 8 smokers from purchasing cigarettes, without 9 regard to how the moneys would be used to 10 discourage future potential smokers, just to 11 discourage current smokers from continuing to 12 smoke, what price do you think would be 13 necessary? 14 A. Virtually any increase beyond a few 15 cents per pack should make a difference at the population level, and that's as far as ${\tt I'm}$ 16 17 willing to go, because the absolute value depends 18 on many other factors. 19 Q. If we go back to the schedule of 20 documents, number four, you were asked to bring 21 with you any and all depositions, medical COURT REPORTING CONCEPTS, INC. Baltimore, Maryland Phone (410) 821-4888 Fax (410) 821-4889 49 1 records, bills, receipts, hospitalization reports, test results, lab results, population

data or other documents in your possession 4 relating to the class representatives, any 5 punitive class members and/or class members in 6 this case. What documents have you brought with 7 you? 8 A. There is some overlap in the questions, so let me tell you what I've got and then you can 9 10 decide which numbers they match to. Q. Okay. Fine. 11 12 A. Okay. I have the schedule of documents that I received August 31, 4:34 by fax. I have 13 14 the third amended complaint that is dated April 19, 1999, that I received August 21, 2000, at 15 16 4:35 by fax. 17 Q. Do you understand that in this case as 18 currently filed there is no claim being made for 19 assistance with smoking cessation for class 20 members? 21 A. Well, frankly, there was some vagueness, COURT REPORTING CONCEPTS, INC. Baltimore, Maryland Phone (410) 821-4888 Fax (410) 821-4889 50 1 and my belief was that this could eventually contribute to increased smoking cessation 3 available, but my understanding is that the intent is not to provide, not to set up specific treatment services. 5 6 The reason I don't give you a yes-or-no 7 is that from the perspective of offering people 8 treatment and getting people to try to quit 9 smoking, it is complicated, and it ranges from 10 having a health professional doing an evaluation and a diagnosis and providing encouragement at 11 one end and at the other end of actually 12 13 providing treatment. This would provide 14 assistance on the end of medical monitoring, which I believe would contribute to the broader 15 16 goal of getting more people to try to quit 17 smoking. 18 So, again, to me it is not an all or 19 nothing thing. Q. Well, I asked you a narrower question 20 21 than the one you answered. COURT REPORTING CONCEPTS, INC. Baltimore, Maryland Phone (410) 821-4888 Fax (410) 821-4889 I promise you that I am today going to question you about any beliefs you hold and why you hold them with respect to whether or not implementation of a medical monitoring program 5 will have an effect on cessation rates. 6 We will cover that today. The only 7 question I am currently asking you is whether you 8 were aware or not that the third amended 9 complaint currently does not make any request for 10 relief in the form of smoking cessation remedies. 11 A. My understanding is it does not provide 12 for specific treatment clinics or treatments to 13 be available. 14 Q. What other documents did you bring with 15 you?

A. This is just the fax cover sheet telling 17 me where this deposition was, an expert disclosure which I had discussed by telephone. 18 19 This is not signed. I believe I had had this in my records, but was unable to find the original, 20 21 which presumably was filed many months ago, so it COURT REPORTING CONCEPTS, INC. Baltimore, Maryland Phone (410) 821-4888 Fax (410) 821-4889 52 is possible that the original that I had was 1 destroyed. I just couldn't find it, which is why 3 I asked Ness Motley to fax it to me. Q. Why do you believe that the original 5 disclosure was filed many months ago? 6 A. Well, because some number of months ago, 7 last spring or last winter, I had discussions 8 about the case, where I agreed as to where my 9 opinions may fit into the case; and, frankly, I 10 don't know at what point anything was filed, 11 describing how I would fit into the case. So, you know, I don't know if this was 12 13 filed or made available three days ago or three 14 months ago. I really don't know. 15 Q. Did you draft your disclosure or did 16 someone else draft it? A. This disclosure was typed at Ness Motley 17 based on materials that I have originally been 18 involved in preparing over the years. And, 19 20 frankly, as you will see when you look at it, it 21 is basically a very short version that is very COURT REPORTING CONCEPTS, INC. Baltimore, Maryland Phone (410) 821-4888 Fax (410) 821-4889 53 similar to numerous listings that I have worked on over the past approximately three years. Q. Before we leave that topic, for how long 4 have you consulted with or worked with the Ness 5 Motley law firm? A. The initial consulting was in the late 7 fall, early winter, of 1996. It would have been, I believe, November 8 or December of 1996. I don't recall, you know, 9 10 which month, sometime in that frame. I believe 11 the beginning of December, but about then. 12 Q. On approximately how many cases have you 13 consulted with the Ness Motley law firm? A. The, when I was preparing my summary of 15 cases for my curriculum vitae, in July of this 16 year, that was based on my best available records; and I believe that we are talking about 17 18 something in the range of eight to twelve; but 19 having said that, where the record is frankly 20 blurry to me is that over the course of the 21 Attorney General's litigation, there were many COURT REPORTING CONCEPTS, INC. Baltimore, Maryland Phone (410) 821-4888 Fax (410) 821-4889 cases that were filed that Ness Motley was 1 working on; and so it is possible that there were cases where my general expertise was serving the

other cases, but not that I am specifically aware of. It seems like it would be clearer than that, 5 6 but that's the best I can --7 Q. No. That's what I expected. The point is that in addition to specific cases, you also, 9 from time to time provide your services to the Ness Motley law firm on general issues that might 10 11 have implications for more than one case. MR. GRUENLOH: Move to strike counsel's 12 13 comments prior to the question. 14 MR. FURR: Correct? 15 A. What I do is talk about the science of 16 tobacco addiction. That's the bull's eye of what 17 I talk about. So over these years, I have been 18 frequently consulted about the science of tobacco 19 addiction, about new science, about new findings, 20 and it oftentimes is not clear to me nor does it 21 matter to me how this relates to any specific COURT REPORTING CONCEPTS, INC. Baltimore, Maryland Phone (410) 821-4888 Fax (410) 821-4889 55 case. Q. Do you have a standard fee that you charge the Ness Motley law firm for your work 3 with them? A. Yes. Q. What are those fees? 6 7 A. It is a two-tiered system; and the 8 initial tier is -- well, the first thing is that 9 I personally don't charge a fee. I personally do 10 not receive a direct fee. Penney Associates charges a fee, and like Penney Associates does 11 for any corporate client, that fee is \$350 for general consulting on a case. When there is work 13 14 that pertains to depositions or trial testimony, then the rate is \$500 per hour, and in that case, 15 I receive a \$150 per hour bonus, if you will, for 16 that, I guess you would call it, hazard duty. 17 18 Q. Does that mean that the rate is \$650 per 19 hour or that your personal compensation is 20 increased by \$150 per hour? A. It means that the rate is \$500 per hour, 21 COURT REPORTING CONCEPTS, INC. Baltimore, Maryland Phone (410) 821-4888 Fax (410) 821-4889 and I receive an additional compensation beyond my salary of \$150 per hour. Q. Do you hold an equity position in Penney & Associates? In other words, are you a part or full-owner of the company? 6 A. The company is solely owned by John 7 Penney. 8 Q. Can you estimate for me the billings of 9 Penney Associates to the Ness Motley law firm since June of 1996? 10 A. I will do my best. The main figure that 11 I track is the percentage of time figure, so I 12 13 will answer it in two ways. I'll answer it in 14 percentage of time and I'll answer to the best of 15 my ability in absolute time. 16 In percentage, my Ness Motley billing

```
17
      over this three years has been approximately two
      percent of my billing. It may at one point have
18
19
      been three or four percent in a six-month
20
      interval or less than a six-month interval, but I
      believe it is two percent, maybe three percent
21
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                                                     57
      overall of my time.
 1
               Put another way, the most recent
      snapshot I have is this year, and because of this
      request, I asked our accounting, the person that
 5
      does our billing what the billing was; and she
      told me it was about 80 hours over these
 6
 7
      approximately eight months of the year 2000.
 8
           Q. Can you provide me any estimates, in
      terms of dollars billed, for years prior to 2000?
9
10
           A. I would have to sit down with my billing
11
     person, with our billing person, to come up with
      a meaningful estimate.
12
           Q. Have the billings of Penney & Associates
13
      exceeded $100,000 a year in any year since 1996
14
15
      to the Ness law firm?
           A. I don't know.
16
17
            Q. Do you have any expectation as to
18
      whether or not the billings would have exceeded
      $100,000 for a given year?
19
20
           A. I could sit down and do some
21
      calculations based upon my percentages that I
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      have just given you, but that's what it would
 1
       take.
                I keep my focus on science and not on
      the billings of Penney & Associates.
 5
           Q. You mentioned that, you identified for
 6
      me the number of days approximately that you have
 7
      worked with or on behalf of Ness Motley in the
 8
      year 2000.
 9
               Can you tell me approximately how many
10
      days a year you would have been working at the
11
      request of Ness Motley on smoking health matters
12
      in the years '97, '98 and '99?
           A. I would guess that 1999 was in the range
13
14
      of eight to 15 days. I'm thinking that it was
      closer to eight, but I think that that range,
15
16
      that range I'm comfortable with.
17
            Q. '98?
18
                '98, let me see, I think '98 was when
           Α.
19
      we went to trial in Washington, wasn't it?
20
            Q. I think that's correct.
21
            A. Okay. So '98 was more days. '98 should
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                                                     59
 1
      have been the heaviest year. '98 is also
 2
      complicated, because there was the Hegans and
 3
      Berman law firm that I was working mostly for for
      the Washington state trial.
```

Ness Motley had some involvement. When 6 I say Ness Motley and when I say days for that 7 year, including this year, it is also 8 complicated, because a lot of those days, depending on how you look at them aren't for Ness 9 10 Motley, they are for the tobacco industry in the sense that I have been deposed by the tobacco 11 12 industry. 13 Our billing, through our billing person, 14 it is going to Ness Motley. I'm not sure how you break that out, you know, those days as apart 15 from preparation for a deposition or reading 17 literature that I have been mailed by Ness 18 Motley. It would take some effort to try to sort 19 it out. 20 Q. Rather than parse it out like that, let me ask the question differently because I may 2.1 COURT REPORTING CONCEPTS, INC. Baltimore, Maryland Phone (410) 821-4888 Fax (410) 821-4889 60 have been misunderstanding you. Provide to me an estimate, please, on 3 approximately how many days per year since 1997, 4 you have worked on matters related to smoking and 5 health litigation; let me ask you to include 6 reviewing materials in preparation for 7 formulation of your opinions, preparing for 8 depositions, actual testimony at deposition and 9 trial and any other activities for which you 10 would have billed either Ness Motley or some 11 other law firm representing the plaintiffs or the 12 defendants. A. A couple of days per year, I mean, per 13 14 month. 15 Q. So that would be approximately 10 16 percent of your time then, correct? 17 A. The overall average of the, since 1996, 18 I believe, has been a grand total in the range of 19 three to four percent of my billing time. 20 And I say that because sometime, I 21 believe, in the spring of this year, I asked our COURT REPORTING CONCEPTS, INC. Baltimore, Maryland Phone (410) 821-4888 Fax (410) 821-4889 61 billing person, I think it was before one of my 1 depositions, I don't know if I was frankly asked this, but it was before a deposition, that I asked my billing person, because I thought it 5 might come up, and I believe that it was around 6 three or four percent of my time over those three 7 years. 8 Q. Okay. What other documents did you 9 bring with you? 10 A. Let's see, I have the, a copy of Neal Benowitz deposition, from Tuesday, August 15. 11 12 Now, you can keep this, it doesn't matter to me if I get it back or not. It doesn't have any 13 14 marks or notes. 15 Q. I have my own copy. 16 A. Okay. You don't want an extra one for 17 the airplane to come back.

```
Q. That's the deposition in this case,
19
      isn't it?
20
           A. Right.
21
            Q. Why did you review that deposition?
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           A. It was E-mailed to me to review, and
      there was no specific purpose, other than -- but
      there is a general purpose. And the general
 3
      purpose is that as part of my preparation for
 5
      depositions, I find it very helpful to review my
 6
      own depositions and those of other people whose
      expertise have some overlap, frankly just to --
 7
 8
      I'm not sure what the right word is -- I was
9
      going to say get in the mood for a deposition
10
      process, but I guess switch gears to this type of
11
      process, which is the, even though I've done it a
12
      number of times, is still a bizarre sort of
13
      process for a scientist in many ways.
           Q. It is for me, too, we'll work through
14
15
      it.
16
           A. Thank you, if you have any insights, can
17
      you share them with me, maybe.
18
           Q. Did you request the depositions?
19
           A. I did not formally request it, and, you
      know, I don't know if it was in a conversation
20
      learning that they had, meaning those two
21
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      individuals, Burns and Benowitz, had been
      deposed, that I asked if I could look at it or if
      it was simply offered. I don't recall. I did
      not make a formal request. If I had not received
      it, it wouldn't have mattered much.
           Q. Who, specifically, sent it to you?
 6
 7
           A. Mr. Gruenloh, I was speaking to on the
      telephone, and he had it sent to me.
9
            Q. Did Mr. Gruenloh suggest to you that you
10
      examine the deposition with respect to any
11
      particular issues or any particular questions or
12
      answers or did he direct your review of the
13
      deposition in any way?
14
           A. There was absolutely no guidance that
15
      was offered at all.
16
           Q. Have you reviewed the deposition?
17
           A. Yes, I did.
            Q. And as you reviewed the deposition, did
18
19
      you identify any responses by Dr. Benowitz for
20
      which you disagreed with his response?
21
           A. Well, first I was not looking at it as
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      closely -- I'm not sure how closely you think I
 2
      look at these.
 3
                I spent, I believe, approximately two
      hours, meaning -- or with his maybe it was a
      little over an hour, you know, less than a minute
```

6 a page. 7 So it is possible there was something in Я there, that if I looked closer that I might have 9 disagreed with. There were any number of things that I 10 11 might have stated differently, just because I'm a 12 different person in the same way when I look at my own depositions, there are many things I might 13 14 have stated differently. 15 But there were not important areas of opinion where I believe I am in disagreement with 16 17 Dr. Benowitz. Q. Did you identify any areas of fact or 18 opinion, that you are in disagreement with 19 20 Dr. Benowitz on with respect to the answers you 21 provided in that deposition? COURT REPORTING CONCEPTS, INC. Baltimore, Maryland Phone (410) 821-4888 Fax (410) 821-4889 65 A. There were areas where a line of 1 questioning was going in a direction and where the questioning was fairly narrow and specific, 4 and it is possible that, had it kept going in 5 another direction -- let me restate that. 6 There are areas where there was a 7 specific line of questioning, where someone might 8 have come to the conclusion that his opinion and 9 my opinion differed somewhat; and that occurred 10 to me a couple of times. 11 But in those areas, I believe that had 12 he been asked appropriate follow-up questions, it 13 would be clear that he and I are of very similar opinions on the science of tobacco addiction. 15 I'm sorry that's not a simple yes or no. 16 The subject matter is complicated. There are a 17 lot of ways to answer any given thing. There are a lot of things that you can choose to emphasize, 18 19 and not being in a room with a person, not 20 knowing, being in that situation, makes it hard 21 to evaluate, just simply because at any given COURT REPORTING CONCEPTS, INC. Baltimore, Maryland Phone (410) 821-4888 Fax (410) 821-4889 1 point you might choose to emphasize one aspect of 2. the science more than another aspect. I think 3 the bottom line, maybe I just should have said this in the first place, is that I believe on the 5 science that was discussed and the opinions that 6 were issued, that my views and opinions are 7 similar to Dr. Benowitz. 8 Okay. I just want to be clear about 9 this latter point, because I'm not really asking 10 you whether you believe that would have provided 11 different answers to questions that weren't asked 12 during the deposition. 13 My only question is whether you 14 identified statements of fact or opinion by 15 Dr. Benowitz, in response to questions that were 16 asked during the deposition, to which you 17 disagree? 18 A. No. I believe I'm in agreement with

```
19
      Dr. Benowitz's opinions.
20
          Q. Okay. What other documents did you
21
      bring with you?
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           A. The same thing for Dr. David Burns, who
      was deposed on August 9, 2000, and the other
      marking on this page is the yellow highlighting
 3
      of his name and date. This is a longer
      deposition, more than 300 pages, I believe.
           Q. You understand, don't you, that
 6
 7
      Dr. Burns has now been named in this case as an
 8
      expert on nicotine, don't you?
 9
           A. You know, I haven't seen his expert
10
      statement, so I am not sure. There are overlaps.
11
           Q. His deposition did not deal with or
       focus on issues of nicotine addiction, did it?
13
           A. Not specifically, but there are areas of
      overlap between his areas of expertise and mine.
14
      He, for example, is questioned much more about
15
      the medical monitoring program than would be
16
17
      appropriate for me.
               He wasn't asked some of the kinds of
18
19
      questions that would be more appropriate for me,
      but he also was asked and talked about issues
20
      that are relevant, such as nicotine dosing
21
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      capacity of cigarettes and how they are marketed
 1
      and so forth.
               MR. GRUENLOH: Can we take a quick
      restroom break?
               MR. FURR: Sure.
 5
               (Break.)
 6
 7
            Q. Dr. Henningfield, what other documents
 8
      have you brought with you today?
 9
           A. Here is the Burns. Do you want that
10
      one?
           Q. I do not want that one.
11
           A. And I have expert affidavits from Edward
12
      Workman and Theodore Wilson, and that is all of
13
      the documents that I have.
15
           Q. May I see the expert affidavits that you
16
      just described?
17
           A. Sure.
18
            Q. You have Theodore Wilson's affidavit
      from the McKuhn case dated August 8, 199 -- dated
19
      July 8, 1999, correct?
20
21
            A. Correct.
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            Q. Who provided you this affidavit?
           A. I believe that Ann Rider's office, and
 3
      one of the affidavits or maybe both of them have
      a note in my handwriting in the upper right-hand
      corner, I don't always do this, I should, this
      says from Ann Rider, 3/22 and the other one --
```

Q. Says the same thing? 8 A. So I'm quite certain that was 3/22 of 9 2000. 10 Q. Did you review Theodore Wilson's 11 affidavit? 12 A. I did. Q. For what purpose? 13 14 A. It was sent to me by Ann Rider's office, 15 and I read it. 16 Q. What issues does it deal with? 17 A. Basically, it is a history of various kinds of events over the years pertaining to the health effects of tobacco, ranging from 19 20 mentioning Reader's Digest articles to 21 advertising campaigns, to public health messages, COURT REPORTING CONCEPTS, INC. Baltimore, Maryland Phone (410) 821-4888 Fax (410) 821-4889 70 citizens groups against tobacco. Q. Did the information contained in that affidavit affect your opinions in any way, including reinforcing what you intend to express 5 in this case? 6 A. No. 7 Q. When you reviewed Theodore Wilson's 8 affidavit, did you find in it statements of fact or opinion with which you disagreed? 9 A. There was the implication, and I don't 10 11 recall how it was stated. I would have to go back and look at it. But the context of the 12 13 implication was that the citizens of West 14 Virginia should have been thoroughly knowledgeable about the toxic and addictive 15 effects of tobacco and to the extent to which 16 that was intended, I disagree. 17 18 But as to referencing specific documents 19 and events, to the best of my knowledge, the 20 specific documents and events that were cited and 21 footnoted, I believe, are true. COURT REPORTING CONCEPTS, INC. Baltimore, Maryland Phone (410) 821-4888 Fax (410) 821-4889 Q. You also reviewed the affidavit -- well, 2. let's mark that. A. May I have that -- I'm not sure I need 3 these back at all, I have copies, but I don't 5 recall any notes in any of them, so it doesn't 6 make any difference. 7 (Whereupon, Henningfield Deposition 8 Exhibit No. 5, Wilson affidavit, marked.) 9 Q. Dr. Henningfield, for the record, verify 10 for us that what we have marked as Deposition 11 Exhibit 5 is the affidavit of Theodore Wilson 12 that you and I were discussing. A. That's correct. 13 14 MR. FURR: Mark this as 6, please. 15 (Whereupon, Henningfield Deposition 16 Exhibit No. 6, Workman affidavit, marked.) 17 Q. Dr. Henningfield, verify for us that 18 what we have marked as Deposition Exhibit 6 is 19 the copy of Edward Workman's affidavit that you

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20
      brought with you to the deposition?
21
           A. That's correct.
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                                                    72
           Q. Did you review this affidavit?
           A. Yes, I did.
           Q. For what purpose?
           A. It was sent to me, and so I read it.
5
           Q. What subject matter does this affidavit
      deal with?
7
           A. It addresses the topic of tobacco
8
      addiction.
           Q. Did you find, within this affidavit,
9
10
      statements of fact or opinion to which you
11
      disagreed?
12
           A. Yes.
13
           Q. Can you identify those for me, please.
14
               MR. KLEIN: Can you get the date of the
15
      affidavit?
16
           A. Yes.
17
               What is the date of that affidavit,
           Q.
18
      Doctor?
19
           A. This was signed on the 28th of February,
20
      2000. I will have to take a -- I haven't looked
      at this recently, I mean I just picked it up and
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      paged through it, so if you like, I can, I
1
      disagreed with a lot of what was in there. I was
      frankly amazed that this person was qualified as
      an expert on tobacco addiction.
           Q. Let's stop for a minute and make copies
6
      of it, so we can all follow along with you.
7
           A. Sure.
8
           Q. While copies are being made, let me ask
9
      you if you have brought any other documents with
10
      you?
11
           A. No. That is all.
           Q. I take it then that you have not
12
13
      reviewed depositions of any other witnesses in
      this case, including the named class
15
      representatives?
16
           A. Correct.
17
           Q. Have you reviewed the medical records of
18
      any of the named class representatives in this
19
      case?
20
           A. No. I have not.
21
           Q. Have you reviewed any type of records
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      with respect to the named class representatives
1
      in this case?
           A. No. I have not. Well, let me take that
      back. The CDC MMWR reports that provide smoking
5
      prevalence data obviously relates to the class,
      but I have not been given materials by Ness
      Motley that specifically pertain to this class or
```

8 this case. Q. Have you received materials that 9 10 specifically pertain to this class or this case 11 from any source, other than Ness Motley? A. No. I have not. 12 Q. Other than the exhibits that we marked 13 as your Deposition Exhibits 3 and 4, have you 14 15 viewed, reviewed any materials or documents of 16 any type that provide information specific to 17 West Virginia? A. This is my entire Blakenship file. As I 18 19 mentioned earlier, over the years, I tracked 20 national smoking trends, I would look to see 21 what's happening in West Virginia and other COURT REPORTING CONCEPTS, INC. Baltimore, Maryland Phone (410) 821-4888 Fax (410) 821-4889 states, but that's at a more general level. That's part of what I do as a professional in the 3 Q. So in preparation to testify in this 5 case, you have reviewed no West Virginia specific 6 materials other than those we have marked as deposition Exhibits 3 and 4; is that correct? 7 8 A. Correct. Q. Do you have any additional work that you 9 intend to do prior to testifying in this case? 10 A. Prior to testifying, I believe it will 11 12 be important to see where my expertise is 13 relevant and how it fits, and I anticipate 14 working with the plaintiffs to put together the 15 materials that are most relevant from among those materials that were used in the Washington State 16 17 trial and have been discussed at numerous other 18 depositions. Q. See if I understand it. Are you saying 19 20 that prior to testifying, you anticipate working with plaintiff's counsel to help them identify 21 COURT REPORTING CONCEPTS, INC. Baltimore, Maryland Phone (410) 821-4888 Fax (410) 821-4889 specific documents that you believe you should be questioned about? 3 A. I'm not sure that it is that specific. 4 What I anticipate is that I would be asked about 5 areas of tobacco dependence that are relevant and 6 that consideration for my opinions would be 7 taken, and that I would be assisted in that 8 general way, that the field of tobacco addiction 9 science is a very large area. 10 Over the years, I have looked at a lot 11 of documents, and so I would expect that my 12 opinion would be considered as to what materials 13 I think are particularly relevant. 14 I don't know the degree to which, you 15 know, we would actually follow that. Q. When you say you would work with 16 17 plaintiff's counsel to identify the most relevant 18 materials from the Washington State trial, are 19 you referring to identifying tobacco company 20 documents that you believe should be used in your

9 material, as opposed to what would, what I should 10 bring to your attention, that is specific or 11 might alter my opinions. 12 MR. FURR: That's a fair question. I 13 understand your point. We all understand that as 14 one who works in this field, that you are likely 15 to continue reviewing additional and new 16 information that develops in the field as it is 17 made available. If that information substantially 18 19 impacts upon your opinion, we would like for you 20 to alert Mr. Gruenloh to that. 21 Second, if outside your normal COURT REPORTING CONCEPTS, INC. Baltimore, Maryland Phone (410) 821-4888 Fax (410) 821-4889 1 activities of reviewing new and extant literature you engage in work that is directed or related specifically to the opinions that you will express in this case, then we also want you to notify Mr. Gruenloh of that, including the review 5 of new documents for the purposes of formulating 7 your opinions in this case. 8 THE WITNESS: Sure. 9 MR. FURR: Does that clarify it? THE WITNESS: Yes, that is really 10 helpful. Thank you. 11 MR. GRUENLOH: And, Jeff, we'll do what 12 13 is appropriate under the rules of West Virginia. 14 Q. Dr. Henningfield, let me hand you Edward 15 Workman's affidavit. Everyone have a copy of it 16 at the table now? Let me ask you to -- by the way, you 17 don't need to comment on Dr. Workman's 18 19 qualifications, because that is something neither 20 you nor us can resolve today. It is of no 21 moment. COURT REPORTING CONCEPTS, INC. Baltimore, Maryland Phone (410) 821-4888 Fax (410) 821-4889 But what I do want you to do is identify for me statements of fact or opinion in this affidavit that you disagree with? 4 A. Sure. Since this is not annotated and I 5 haven't looked at it in detail for some number of months, I'm not going to spend a lot of time, but bear with me as I skim through it page by page 7 8 and I will highlight a couple of particular 9 issues. 10 On item number five, page two, line 11 three, he states that: "Have argued (in a 12 circular fashion), both implicitly and 13 explicitly, that people smoke both because they 14 are quote addicted closed quote to nicotine." 15 The notion that this is a circular 16 argument, I disagree with, and implies that 17 somehow he is not aware of the vast literature 18 that has established the addictive effects of 19 nicotine independently of what we see in 20 epidemiological studies of people smoking. 21 Later in that paragraph, certain aspects

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of it are, where he says: "It is implied that if a person smokes, then they are addicted to nicotine, and that, thus, they smoke because of some "addictive" property inherent in nicotine." Now this is, maybe it is just his style, but in the context of the sentence and the use of the word "implied" suggests that he disagrees with

Now, of course, it is not as simple as anyone that smokes a cigarette, judging that they are addicted, neither I, nor I think most health professionals, would come to that conclusion.

But if a person is a cigarette smoker at some level, they likely are exhibiting signs of dependence. To the degree that he disagrees with that, I disagree with him.

Q. Let me ask you about this. If you have read Dr. Benowitz's deposition you will know I asked him the same question. Identify for me the information that you need to know about any given individual in order to evaluate whether or not COURT REPORTING CONCEPTS, INC.

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that individual is addicted to nicotine?

A. Well, the first thing is that addiction, since we are going to talk about the diagnosis, I'm going to use the more technical term dependence, dependence is not an all-or-nothing phenomenon.

There are signs of dependence that generally increase as a function of different factors, and your confidence that a person shows signs of dependence are related to a number of observable facts.

The first is that the cigarette smoking occurs on a daily basis. That's an important basic fact. It doesn't mean that there might not be some days that smoking doesn't occur, but that that is typical.

The fact that increases your confidence that someone is physiologically dependent is that they are more likely to smoke right away in the morning than less likely. This is a more stringent criteria, and I don't believe that you COURT REPORTING CONCEPTS, INC.

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need this to judge that a person will benefit from advice to stop and from aid in quitting.

So the basic finding is a simple one, and was derived over many years of study, and that is that cigarette smoking is occurring daily, and that that implies that some level of dependence exists.

So you asked me more of an all or none. Now, that is not the same as a DSM diagnosis that 10 that might be useful to do for the purposes of specific treatment, but is not considered 11 necessary by the U.S. Public Health Services for 12 13 the purposes of offering assistance to quit. I'm sorry that it is not a simple 14 15 yes-or-no answer. Q. Well, I didn't ask a yes-or-no question. 16 17 I asked you to list for me the types of information that you would need to know in order 18 to evaluate whether a specific individual is 19 20 addicted or dependent. You listed whether they 21 smoke on a daily basis first, and second you said COURT REPORTING CONCEPTS, INC. Baltimore, Maryland Phone (410) 821-4888 Fax (410) 821-4889 it is also of interest as to their likelihood of 1 2. smoking the first cigarette early in the morning, 3 correct? A. Correct. 5 Q. Is that all you need to know? A. Well, no, and the second one, the 7 likelihood of smoking, I gave as an example of 8 additional information that tells you more about 9 that individual. 10 But over years of study, it is now clear that if somebody has smoked 30 out of the last 30 11 days, that the vast majority of those people have 12 been smoking daily for the past year and are 13 14 smoking more than five cigarettes per day and 15 show signs of dependence. 16 And cigarettes, frankly, are an unusual 17 drug in this respect, that you can infer with a great deal of confidence so much from that simple 18 19 question. 20 Q. Well, now it seems to me as though you 21 have added some additional criteria. COURT REPORTING CONCEPTS, INC. Baltimore, Maryland Phone (410) 821-4888 Fax (410) 821-4889 Let me ask it this way: Is a smoker who smokes one cigarette a day addicted? A. They may show some signs, but again you have made it a threshold, an all-or-nothing, are 5 they addicted, I don't know if a person that smokes one cigarette, if an individual that 6 7 smokes one cigarette a day is addicted. But from 8 a health perspective, one cigarette per day is 9 damaging, and it would be very important for 10 health professionals to do everything possible to 11 make sure that that person understands that one 12 cigarette per day damages their health and that 13 they should make every effort to cease that 14 cigarette per day. 15 Q. That wasn't my question, but, Dr. Henningfield, identify for me every 16 17 epidemiologic study in world that demonstrates 18 that one cigarette per day increases the risk of any disease? 19 20 A. What was the question? 21 Q. Identify for me every epidemiologic COURT REPORTING CONCEPTS, INC.

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study that has ever been published anywhere that demonstrates that smoking one cigarette per day increases your risk of developing any disease.

A. Let me refer you to a couple of major studies, and some of these are compilations of studies.

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One major series of studies that has been conducted in two waves is the American Cancer Society studies in which more than a million individuals were studied in the cancer prevention study one and two, which have a category for, I believe, one to nine cigarettes, which shows elevated risk, beyond no smoking.

Now that, of course, includes some individuals that smoke one and some individuals that smoke nine cigarettes per day.

Another large compilation of evidence that bears on this topic are the environmental smoke analyses that have been compiled in the form of the 1996 Surgeon General's Report, which I believe was titled involuntary smoking, and the COURT REPORTING CONCEPTS, INC.

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Environmental Protection Agency's report which came out, I believe, a year or so later.

Both of those studies look at dose effects based upon environmental exposure, and their analyses lead to the clear conclusion that the equivalent to one cigarette per day is damaging to health.

I didn't say that the one cigarette per day was a minimum threshold, but certainly at that level, there is an increased risk to health.

- Q. I don't want to get side tracked of this. But you are really not very certain about those environmental tobacco smoke studies that you just cited, are you?
 - A. What is the question?
- Q. The Surgeon General did not publish a volume on involuntary smoking in 1976, did he, sir?
 - A. Oh, I'm sorry, 1986. Goodness, time flies when you have kids.
 - Q. The Environmental Protection Agency COURT REPORTING CONCEPTS, INC.

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1 released its report in 1992, isn't it?

- A. Yes. I'm sorry.
- Q. Let's not get side tracked on this. Let me go back. A couple of times in response to my earlier questions, you were asked whether or not an individual has shown signs of dependence. What are these signs of dependence?
- A. Well, they include signs that are often used as -- there are a couple of categories. There are what I might call the official signs

11 and symptoms that are listed by the American 12 Psychiatric Association in its Diagnostic and Statistical Manual. 13 14 Q. DSM-IV? A. DSM-IV being the most recent, and by the 15 16 International Classification of Disease of the World Health Organization, which is generally 17 18 similar though not identical. The most recent versions, the ISD-10, DSM-IV having come out in 19 1994, and ISD-10, I believe, in '92. 20 21 And then there are what are sometimes COURT REPORTING CONCEPTS, INC. Baltimore, Maryland Phone (410) 821-4888 Fax (410) 821-4889 1 called proxy, meaning that they are other ways of ascertaining likely dependence, that are used in 2. 3 broad national surveys. These are used in part to compare drugs 5 ranging from cigarettes to cocaine to alcohol. 6 These are signs such as have they used 7 more than originally intended, have difficulty quitting, and these are often related to the 9 amount of drug use per day, whether that is drinks of alcohol, cigarettes per day or, in some 10 11 cases, amounts used in the past month. 12 So there are a variety of kinds of 13 information that bear on this topic, and all of 14 which I consider relevant in my opinion. 15 Q. What are these official criteria that 16 you identify as being part of the schemes 17 embodied in DSM-IV and ISD-10 categories that are 18 signs of dependence? 19 A. Well, for example, in the case of the 20 DSM, there are two different diagnostic 21 categories. One is the nicotine dependence COURT REPORTING CONCEPTS, INC. Baltimore, Maryland Phone (410) 821-4888 Fax (410) 821-4889 91 syndrome and the other is the nicotine withdrawal syndrome. 3 The nicotine dependence syndrome is 4 described as a maladaptive pattern of persistent 5 use. And it is described as under the criteria 6 for drug dependence diagnosis in general, of 7 which for any given drug, not all of the criteria 8 may equally apply, but the approach is to determine if three or more symptoms have been 9 10 demonstrated over the past year, as a threshold, 11 if you will. It doesn't mean that people that 12 show two symptoms have no dependence, but that is 13 the basis for an objective diagnosis. 14 Now, for the dependence, that can 15 include withdrawal as one of the criteria. 16 can include tolerance as evidenced by increased 17 use than original. It can include use in the face of harm. 18 19 There are a variety of others. I don't recall 20 the precise wording, but there are a variety of 21 other kinds of symptoms, use in the face of COURT REPORTING CONCEPTS, INC. Baltimore, Maryland

Phone (410) 821-4888 Fax (410) 821-4889 92 social, again, I don't recall the exact wording, 1 2 but use when use has negative social consequences is another type. For the nicotine withdrawal syndrome, in 5 this case, the diagnostic criteria are more 6 specific to nicotine and they include things like 7 symptoms and signs such as increased heart rate, 8 anxiety, increased anger, difficulty 9 concentrating, sleep disturbance, I believe GI distress is back in DSM-IV, it was out in DSM-III 10 three, and I think that reflects the 11 12 science-based approach that is used in these

nine or ten specific symptoms.

So there are a variety of things I'm not attempting to give you every one, but to give you

criteria. Craving is listed as a potentially

important component, but is not on the list of

a sense of the DSM approach.

Q. We got into this, because I asked you the question of what you need to know to make a determination of whether or not a smoker is

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addicted and dependent on nicotine.

Let me ask you this question: Is an individual that has for a year smoked one cigarette per day, but who has never attempted to quit and who does not want to quit and who believes themselves to be experiencing no health effects from that cigarette per day addicted or dependent on nicotine?

A. I don't know.

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- Q. Why not? What else do you need to know?
- A. Well, here again, the difficulty, why this is difficult is because I work at two levels with cigarette smokers. And one is the public health level, which overlaps with a class type of definition.

And the other is at the individual level of what do you do when confronted with trying to help a particular individual try to quit smoking and what is the best course for that individual.

At the public health level or the class level, it is a reasonable assumption that COURT REPORTING CONCEPTS, INC.

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somebody that is smoking every single day, either has not been properly informed and should, or that they have been informed, we should make sure that they have resources to help them cease that behavior.

If they refuse, there is not much we can do about that. But I believe that it is important to offer the resources in case they are experiencing difficulty.

- Q. Finished?
- 11 A. Yes.

12 Q. Dr. Henningfield, I'm really not sure what question you thought I asked, but here is 13 the question I asked. The question I asked is: 14 15 What additional information do you need to know to determine whether or not the 16 17 individual that I described is addicted or 18 dependent on nicotine? MR. GRUENLOH: Object to the form of the 19 20 question, argumentative, asked and answered. 21 MR. FURR: Go ahead. COURT REPORTING CONCEPTS, INC. Baltimore, Maryland Phone (410) 821-4888 Fax (410) 821-4889 A. Okay. If we shift from the public health effort, which is the approach of the U.S. 3 Public Health Service, including its recent 4 smoking treatment, Tobacco Dependence Treatment 5 Guideline, and shift from that to what do you do 6 if an individual shows up at your door or you 7 have been given a specific case for that individual case, it would be reasonable to ask 8 some questions. 9 10 Now, you posed a hypothetical where you 11 have already described some things that are 12 relevant. I believe in your hypothetical case, you said the individual was not aware of health 13 risk or not concerned with health risk. 14 15 Q. Let me start again. You have an 16 individual that smokes one cigarette per day, who 17 does not want to quit smoking, who has never 18 attempted to quit smoking, and who does not believe themselves to be experiencing currently 19 any harmful effects from the cigarette that they 20 21 are smoking each day, I ask you whether that COURT REPORTING CONCEPTS, INC. Baltimore, Maryland Phone (410) 821-4888 Fax (410) 821-4889 96 individual was addicted or dependent on nicotine 1 and you told me you did not know, you would need 3 additional information. My question is: What else do you need to know about that person? 4 A. Well, the way you have framed this 5 6 hypothetical, I guess I'm confused. I don't see 7 the point. The person doesn't want to stop, 8 doesn't believe that harm is occurring, it would 9 be important, from a public health perspective to do your best to make sure that the person 10 11 understands what the consequences of that daily 12 smoking are. Q. Excuse me, Dr. Henningfield, do you 13 14 understand what I am asking you? 15 A. I'm frankly confused. 16 Q. I want this to be very clear. When I 17 ask you what information you needed to know to determine whether or not an individual was 18 addicted or dependent on nicotine, the only 19 20 criterion that you identified for me was whether 21 or not that person smoked daily. That's an COURT REPORTING CONCEPTS, INC. Baltimore, Maryland Phone (410) 821-4888 Fax (410) 821-4889

http://legacy.library.ucsf.@du/tid/urn05a00/pdfndustrydocuments.ucsf.edu/docs/lgxd0001

answer that I am trying to probe as to whether or 1 2 not, when you think about it, you will come to 3 the conclusion that there is additional information that you need to know in order to 5 make that decision, that's the issue I'm trying 6 to get at. A. Either I misspoke or you 7 8 mischaracterized my statement, because it is not 9 that you only need to know if the person smokes 10 every day to know if they are addicted. What smoking every day tells you is that 11 12 that there is a high probability that dependence 13 exists. 14 Q. Let me ask the baseline question again, 15 rather than to debate how we got off track. 16 What information do you need to know to determine whether or not a specific individual is 17 18 addicted or dependent on nicotine? 19 A. It depends on what the purpose is for. If the purpose is a billing purpose, for example, 2.0 2.1 where billing is related to DSM, then for that COURT REPORTING CONCEPTS, INC. Baltimore, Maryland Phone (410) 821-4888 Fax (410) 821-4889 billing purpose, you, by definition, need to do a 2. DSM diagnosis. If the purpose is to determine if 3 treatment should be offered and may be useful, as 5 was discussed in this U.S. Public Health Service guideline that came out this June, it is quite 6 7 simple. If the person is smoking, treatment should be offered, because that implies some 9 level of dependence. 10 Now, upon that offering, we frankly 11 learn more about that particular individual; and 12 this is where the education and treatment 13 offering are frankly part of the process I'm 14 focusing on this individual. 15 So there is no simple answer to this. Q. Let me try to understand the answer you 16 17 gave. 18 Is it your position that anybody who 19 smokes on a daily basis is dependent or addicted 20 to nicotine? 2.1 A. No. COURT REPORTING CONCEPTS, INC. Baltimore, Maryland Phone (410) 821-4888 Fax (410) 821-4889 1 Q. What else do you need to know, to determine whether or not they are dependent or 3 addicted to nicotine? A. If they smoke, we need to make efforts 5 to advise them to stop and to aid their efforts 6 in stopping, in terms of determining level of 7 dependence, there are specific questions we can

ask, for example, how many cigarettes per day,

specific to cravings, and patterns of smoking.

There are a whole range of things that can be

We can even ask questions that are

when the first cigarette of the day is.

8

9

10

11

12

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13
      asked. In principle, if we are going to
      prescribe medication, such as a nicotine
14
15
      replacement medicine, or if the person is a
16
      consumer buying an over-the-counter medicine, the
      number of cigarettes smoked per day is a factor
17
18
      in determining the right dosage for the
19
      individual.
                So, again, there is no simple answer.
20
      It depends what the purpose is in getting the
21
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          Phone (410) 821-4888 Fax (410) 821-4889
                                                     100
       information.
           Q. Okay. Try this one then. Assume that
      you are an expert that has been asked to offer an
 4
      opinion to a reasonable degree of medical or
 5
      scientific certainty in a trial as to whether or
      not a specific individual is addicted or
      dependent on nicotine. What information do you
 7
 8
      want to know about that person?
9
       A. The first question that I would ask is:
10
      Is smoking daily?
11
               The second would be: How many cigarettes
12
      per day?
13
               The third would be: When is the first
      cigarette of the day?
14
               Probably the fourth would be: How long
15
16
       the person has been smoking?
17
               What I am describing is a hierarchy of
18
      kinds of questions. The answers at each level
19
      give me more confidence in making a judgment.
20
      And again, the purpose of the diagnosis cannot be
21
      left out.
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                     Baltimore, Maryland
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                                                    101
 1
                If the purpose is to obtain
      reimbursement --
           Q. Wait a minute. Excuse me. I'm not
      interrupting you to be rude, but I want you to
 5
      focus on the question at hand. I told you what
 6
      the purpose was.
           A. No. You didn't.
 7
 8
           Q. The purpose was you have been asked to
9
      testify as an expert at trial. Assume it is in a
10
      smoking and health case.
11
           A. Okay.
12
            Q. And addiction or dependence is being
13
      offered as an explanation as to why this
      individual continued smoking in light of having
14
15
      been made aware of the health risk of smoking.
16
               What information do you, as an expert,
17
      need to know before you can offer an opinion to
18
      the requisite degree of certainty as to whether
19
      or not that individual is dependent or addicted
20
      to nicotine?
            A. Well, you are making it into an all or
21
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nothing, that they are or are not. And frankly, 2 in diagnoses there is frequently a continuum, and 3 the continuum is inferred by the number and 4 severity and sometimes the qualitative nature of the symptoms. And that, in turn, affects what 5 6 label you use. 7 A person that is smoking cigarettes 8 every day is showing one sign of being dependent on cigarettes. It is one sign that is an 9 important sign, that tells an expert in the field 10 11 a lot, because we know that the vast majority of 12 people that have smoked every day for the past 30 days, have smoked every day for several years and 13 14 have been smoking several cigarettes per day. 15 That simple question gives me a high degree of 16 confidence in that. 17 It does not provide absolute certainty. 18 By asking more questions I increase the level of 19 certainty. 20 Q. Are you able to reach a conclusion as to 21 whether or not an individual is addicted or COURT REPORTING CONCEPTS, INC. Baltimore, Maryland Phone (410) 821-4888 Fax (410) 821-4889 103 dependent on nicotine without knowing anything about whether and how they have ever attempted to 3 stop smoking? A. If they are in the United States, where 5 there is some information about the health 6 consequences, as inadequate as I think it is, but 7 at least there is some information, and the 8 person has been smoking every day, that is an important sign that there is a probability that 9 the person exhibits dependence, because the vast 10 majority of people that show that sign show a 11 12 number of other signs as well. Q. So is that a yes? 13 14 A. I'm not sure. You will have to judge 15 that. That's my best answer. 16 Q. Do you remember what the question was? 17 A. I'm not sure that I could restate it. But I answered it to the best of my ability. 18 Q. Let me restate it, because I think you 19 20 might have gotten lost on the question. 21 My question is the following: Can you COURT REPORTING CONCEPTS, INC. Baltimore, Maryland Phone (410) 821-4888 Fax (410) 821-4889 104 reach an opinion as to whether or not an individual is addicted or dependent on nicotine without knowing anything about whether they have 3 ever attempted to quit, and if so how? 5 A. That it? 6 Q. That's it. 7 A. I can issue an opinion on the 8 probability based on that information, and the 9 confidence in the opinion would be increased with 10 additional information that may or may not be 11 implicating for that individual. 12 Q. So as I read all your answers together, 13 it sounds to me like all you really believe you

```
14
      need to know is whether they smoke on a daily
15
      basis?
16
           A. That's not quite what I said.
17
                From a public health perspective, if
      they are smoking on a daily basis, that is of
18
19
      concern.
20
                From a diagnostic perspective, that
21
       factor is strongly correlated with a number of
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      other factors; and depending on what you wanted
      to do with the information or the consequences,
       it may or may not be worth conducting a full
      evaluation.
 5
               For example, the U.S. Public Health
 6
      Service Public Treatment Guideline does not
 7
      advise that it is necessary to conduct a DSM
 8
      diagnosis to determine whether or not treatment
 9
      should be offered. But if smoking is occurring,
      the treatment should be offered.
10
           Q. Do people that are not addicted or
11
12
      dependent need treatment to stop smoking?
13
           A. Well, the question, you said "need", and
14
      I'm sorry it is not a simple issue, it is do they
      need and will they benefit, and those issues are
15
16
      related. We know that people that are offered
      treatment that are at low levels of cigarette
17
18
      smoking benefit from treatment.
19
                This has been shown in analyses by
20
      Professor Chris Salagee and others, who have
21
      looked at people that have involved in smoking
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                                Fax (410) 821-4889
                                                     106
       cessation trials, some of which only smoke a few
 1
 2
       cigarettes per day.
 3
                In practice, those kinds of people are
      not usually the ones that are studied in trials.
 5
               However, the data that we do have
       suggests that those people will benefit.
 6
 7
               Now, did they need it? Need is a more
 8
      complicated question.
9
           Q. Well, my question was as follows, and
10
      I'll restate it, using your benefit: Do smokers
11
      who are not addicted or dependent on nicotine
12
      benefit from treatment aimed at helping them stop
13
      smoking, with respect to their ability to stop
14
      smoking? I know that you think they benefit by
15
      stopping smoking, because they will avoid the
16
      adverse health consequences if they continue to
17
      smoke. I'm asking a more narrow question than
18
      that. My question is simply whether they will
19
      benefit with respect to their ability to stop
20
      smoking?
21
           Α.
               They may. There are people that may be
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                                                     107
      at very low levels of nicotine intake who,
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nonetheless, would benefit from specific guidance 3 as to how to completely stop smoking. And that 4 guidance may include behavioral strategies, 5 pharmacotherapy or both. Q. Let me see if I understand your position 7 on this. Anybody that smokes on a daily basis has some degree of dependence or addiction, 8 9 correct? A. That's not what I said. 10 11 Q. Well, among those that smoke on a daily 12 basis, how can I tell which ones have some degree 13 of dependence or addiction to nicotine and which 14 ones don't? 15 A. If they smoke, on a regular basis, and daily is even more regular, what I am saying is 16 17 that there is a high probability that they smoke more than one cigarette per day. 18 19 Q. Wait a minute, I'm sorry, 20 Dr. Henningfield, I have heard this several 21 times. You need to focus on my question. I COURT REPORTING CONCEPTS, INC. Baltimore, Maryland Phone (410) 821-4888 Fax (410) 821-4889 108 don't mean to be rude, but I want us to get done 1 today. I understand the generalities that you believe can be used to draw inferences in general. That's not what I am asking you about. 4 I'm asking you about, if an individual smokes on 5 6 a daily basis, what else do I need to know to 7 determine whether or not that smoker is one of 8 the smokers that has some degree of dependence or addiction or whether that smoker is one of the 9 smokers that is not exhibiting dependence or 10 addiction? 11 12 A. Well, you could ask any of the questions 13 in the official diagnostic manual of the DSM. You could ask questions that are used in the FDA 14 15 approved labeling for when it is appropriate to 16 use treatment medications. You could ask more 17 specific questions that researchers use, like the 18 Fagerstrom, F-A-G-E-R-S-T-R-O-M, tolerance 19 questionnaire items. In other words, there are any number of 20 21 symptoms and signs that have been scientifically COURT REPORTING CONCEPTS, INC. Baltimore, Maryland Phone (410) 821-4888 Fax (410) 821-4889 studied that would provide you with information 1 in addition to the simple observation that they were a daily cigarette smoker. 4 Q. Okay. Let's go back to the affidavit. 5 Working through the affidavit, you were showing to me statements of fact or opinion in this 7 affidavit that you disagreed with. 8 A. Let's see, page two, item six, Part B. 9 He says there is no rational basis for the 10 concept of nicotine addiction assuming that the 11 user of the term is trying to convey a conventionally defined, scientifically based 12 13 concept. 14 This statement is add odds with every

major World Health Organization, the DSM, the 15 ISD-10. It just amazes me that he could make 16 17 this statement. 18 Q. Help me try to understand this. Your amazement amazes me. Nowhere in the DSM-IV will 19 20 you find the phrase nicotine addiction; is that 21 correct? COURT REPORTING CONCEPTS, INC. Baltimore, Maryland Phone (410) 821-4888 Fax (410) 821-4889 110 A. The term dependence is the term that is used in the medical literature, but to play a 3 word game and say because DSM and ISD-10 use the word dependence that there is no rational basis 5 for the concept of what anybody in the field knows is simply a broader term for dependence 6 7 doesn't make any sense. 8 Q. So the answer to my question is that I 9 am correct, that nowhere in DSM-IV will you find 10 the phrase nicotine addiction? A. The DSM uses the technical term, which 11 12 is dependence, which has been described in 13 numerous places as the technical term for what is more commonly referred to as nicotine addiction, 14 15 including in the 1988 report of the Surgeon General, which used the word "nicotine addiction" 16 in the title, described the fact that it was used 17 as a more general term for the technical term of 18 19 dependence, and went forward from there. 20 Q. So the answer to my question is that I 21 am correct, that nowhere in the DSM-IV will you COURT REPORTING CONCEPTS, INC. Baltimore, Maryland Phone (410) 821-4888 Fax (410) 821-4889 111 find the phrase nicotine addiction? MR. GRUENLOH: Objection, asked and 3 answered. MR. FURR: It has been asked. I will agree with that. 6 MR. GRUENLOH: Same objection. 7 A. The word "addiction" is not the term 8 that is used. The concept --9 Q. I'm not asking about concepts now. Just 10 asking about words. 11 A. Okay. 12 Q. Am I also correct that nowhere in the 13 ISD-10 will you find the word, the phrase 14 nicotine addiction, those words are not there? MR. GRUENLOH: Objection. You have to 15 16 let him finish his answers, you can't cut him 17 off. 18 MR. FURR: I will let him finish his 19 answer as long as the answer is responsive to the 20 question I am asking. But in an effort to get done today, as I know you both want to, I will 21 COURT REPORTING CONCEPTS, INC. Baltimore, Maryland Phone (410) 821-4888 Fax (410) 821-4889 112 point out to the doctor when he is straying from the answer that is responsive to the question.

You remember my last question? 4 A. Yes. The ISD-10 uses the term tobacco 5 dependency as opposed to the other term of 6 nicotine dependence. Neither use the word 7 "addiction." 8 Q. In fact, the World Health Organization 9 in general does not use the term "addiction" any 10 longer; is that correct? A. That's not true. The World Health 11 Organization, the American Medical Association, 12 the National Institute on Drug Abuse, which is 13 14 our nation's highest authority on addiction and dependence --15 16 Q. I'm only asking but the World Health 17 Organization now. 18 A. I answered. I included World Health 19 Organization. 20 Q. That's the problem we're having. I'm 21 not trying to be rude, but when I asked you about COURT REPORTING CONCEPTS, INC. Baltimore, Maryland Phone (410) 821-4888 Fax (410) 821-4889 113 the World Health Organization, and you start 1 talking about something else, it doesn't help anybody here. So if you will try to focus on the question, I'll try to be specific and we can get 5 through this today. 6 Now, once upon a time in the early 7 sixties, the World Health Organization used the 8 term "addiction" in terms of defining certain 9 substances as having either addictive or 10 habituating properties, correct? A. They stopped in the sixties, in 1964. 11 Q. Prior to that, they did use those terms, 12 13 correct? 14 A. Correct. Q. In 1964, they stopped using the term 15 addiction and habituating, and instead used only 16 17 the term dependence producing to describe drugs 18 that fell into both the addicting and habituating 19 categories, correct? A. For one specific application, they 20 21 stopped using the term addiction. COURT REPORTING CONCEPTS, INC. Baltimore, Maryland Phone (410) 821-4888 Fax (410) 821-4889 For other applications, the World Health Organization as we sit here today uses the term addiction. You can go to their web site and find 5 Q. When do you personally, how do you make the decision when to use the term dependence 6 7 versus when to use the term addictive, because 8 you use both interchangeably, it seems to me? 9 A. Yes. I think that in general, I use the 10 term addiction in the same way that in general I use the term cancer. It is the term that is most 11 12 clearly stated and understood. In technical 13 medical writings, I generally use the term 14 dependence. Sometimes I point out the 15 equivalence of the terms or how they will be

16 used. 17 In some writings I will be very specific 18 and explain that nicotine dependence and 19 withdrawal are two specific diagnostic categories that more generally are lumped under the frame of 20 21 nicotine addiction. COURT REPORTING CONCEPTS, INC. Baltimore, Maryland Phone (410) 821-4888 Fax (410) 821-4889 115 The World Health Organization does 1 basically the same thing, which is why --3 Q. Excuse me, Dr. Henningfield, again, I'm not being rude, but I want to point out to you was: When you, Dr. Henningfield decide, and you 5 6 are now telling me something about the World 7 Health Organization. So let's try to focus on 8 the question. 9 Would you agree with me that the 10 definition of the term addiction has changed over 11 time and continues to change today? 12 A. Now, I assume by your question you are 13 doing the same thing that I am doing, you are 14 meaning dependence or addiction, addiction being 15 the more general term, because officially, it is 16 the, again, at the level of the evolution, we are 17 talking about the same concept. If you look in the textbooks, the word is dependence, and I 18 19 agree that as we obtained new information, the 20 diagnosis, and our precision continues to improve 21 and evolve and that generally the word COURT REPORTING CONCEPTS, INC. Baltimore, Maryland Phone (410) 821-4888 Fax (410) 821-4889 116 dependence, I expect, will continue to be used in medical texts, and that the word addiction will probably continue to be used more broadly. Q. Do you agree with me that the term 4 5 dependence is a more precise and scientifically 6 defined term than the term addiction? 7 A. Well, by definition, dependence is the 8 word that we use in the official diagnosis. 9 Q. Now, one of the -- strike that. Am I 10 correct that the term addiction is currently used 11 in a very imprecise way by both lay and 12 scientific people? 13 A. Sometimes. Q. For example, both lay and scientific 15 people sometimes describe the process of being 16 addicted to things like exercise or chocolate or 17 video games, correct? A. Correct. 18 19 Q. And that the imprecision with which 20 people use the term addiction is one of the 21 reasons why scientists tend to use the word COURT REPORTING CONCEPTS, INC. Baltimore, Maryland Phone (410) 821-4888 Fax (410) 821-4889 117 dependence in scientific proceedings, correct? 1 2 3 Q. Let's go back to the affidavit, and you

were halfway through paragraph 6(A) and you were 5 identifying for me statements of fact or opinions 6 that you don't agree with? 7 A. Let's see, I was on 6(B). Q. Okay. You are correct. 6(B)? 9 A. 6(A) is -- 6(A) it is hard to tell, frankly, what he means, what he seems to mean, I 10 11 think, he starts off with the statement that 12 tobacco use is a complex psychological and social 13 practice. 14 Now, at that level, a complex 15 biological, psychological and social practice. Now, at that level, I think that any expert in 16 17 the field would agree with that statement as it pertains to tobacco use, cocaine use or heroin 18 19 use. It says which cannot be explained in terms of nicotine dependence. 20 21 Now, if he means nicotine addiction is COURT REPORTING CONCEPTS, INC. Baltimore, Maryland Phone (410) 821-4888 Fax (410) 821-4889 118 the word he uses, if he means that nicotine addiction is not a factor, I don't agree with that. So I'm not really sure what he means 3 4 there. Q. Okay. A. Then further on, he talks about some 6 7 people appear to smoke primarily due to desired 8 physiological effects. I'm not sure if he means 9 by addiction or what he means. Some appear to 10 smoke solely for social reasons. 11 Q. You agree with that. A. I'm not sure how he would ascertain it is solely for social reasons, if they are getting 13 nicotine. I agree that some people's smoking is 14 15 strongly influenced by social reasons. You know, it depends on if he just means somebody starts 16 smoking for social reasons. It is a 17 18 hard-to-understand paragraph, quite frankly. 19 On page three, the paragraph, let's see, 20 this is item, I guess, continuing item B, 21 historically the term addiction has been used by COURT REPORTING CONCEPTS, INC. Baltimore, Maryland Phone (410) 821-4888 Fax (410) 821-4889 119 scholars, scientists and researches, clinicians 1 politicians, bureaucrats and lay people to describe a wide variety of concepts. More recently the term dependence has been applied, 5 but this term, too, has been variously used by 6 different people and groups to refer to widely 7 differing concepts. 8 This is another complicated statement 9 where, on one hand, he seems to be conceding that dependence is the more recent technical term for 10 11 addiction, the implication that he leaves, I 12 disagree with. We might disagree on what his 13 implications are. At one level it is true that, for 14 15 example, ISD-10 and DSM differ somewhat in their 16 criteria, and that DSM-IV is an evolution from

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17
      DSM III-R, but the implication, he seems to
      imply, he uses the phrase "widely differing."
18
19
                I think when it comes to experts in the
20
      area, there is a considerable degree of consensus
      on how the terms are used, and this is evidenced
21
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                                                     120
      by the consistency, the general consistencies of
 1
      the ISD-10 with the APA and, in turn, with the
      U.S. Public Health Service Clinical Practice
      Guidelines, so the fact that he can go through
 5
      the literature and find various statements is
      different from, frankly, the enormous consistency
 7
      in the field of experts as to how they use these
 8
      terms.
 9
           Q. In those terms with respect to the field
10
      of experts, are you a member of the American
      Society of Addiction Medicine?
11
           A. No.
12
            Q. All right. Let's keep going.
13
           A. As noted above the term addiction is no
14
15
      longer used in legitimate medical and scientific
      community for purposes of diagnosis.
16
17
               At one level, I agree with the fact that
      the term that you would use in the medical record
18
      would be dependence. But the fact is that any
19
20
      number of legitimate medical and scientific
21
      communities, such as the Mayo Clinic in
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      Minnesota, researchers at the National Institute
      on Drug Abuse that on a daily basis routinely use
      the term addiction, so if all he means is what
      you write in the chart, for an official DSM,
 5
      that's correct.
 6
               If he means that it is no longer used in
 7
      legitimate medical and scientific communities, I
 8
      don't know where he has been living.
9
           Q. Your point, as I understand it there, is
10
      that physicians and other researchers also tend
      to sort of loosely use interchangeably the terms
11
12
      addiction and dependence?
13
           A. Yes.
14
            Q. What is your next point of disagreement?
15
           A. Well, the next line is confusing,
16
      because he seems to be disagreeing with himself.
17
      He says traditionally clinicians have used
      addiction to refer to a specific syndrome of
18
19
      intoxication intolerance, et cetera.
20
                Now, I don't know if he means that -- I
21
      don't know if he means that addiction is okay,
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                                                     122
 1
      and it is traditional, if you are referring to
 2
       intoxication. I don't know what he means there.
 3
               Either he is disagreeing with himself,
      or if he is using the word interchangeably with
```

dependence, then I don't know where he has been 6 getting his information that intoxication is part 7 of the criteria. 8 Q. Let me ask you this question. 9 A. For dependence. 10 Q. If we substituted the word historically for traditionally in that sentence, would it be a 11 12 more accurate statement? 13 A. It might, depending how far back in 14 history you went, because the first symptom he lists in the syndrome is intoxication, and you 15 have to go back to the 1950's to find that listed 16 17 as part of the symptom for dependence or what was 18 historically referred to as addiction. Q. Dr. Henningfield, that's not a correct 19 20 statement. The Surgeon General was still listing 21 intoxication as one of the criteria for addiction COURT REPORTING CONCEPTS, INC. Baltimore, Maryland Phone (410) 821-4888 Fax (410) 821-4889 123 in 1964. A. The 1964 Surgeon General's Report used 3 criteria from the 1950's World Health Organization Expert Committee. In that same year 4 5 in 1964 the World Health Organization made it clear that intoxication was not a criteria for 6 7 dependence. 8 Q. But when the '64 report was published, 9 the Surgeon General still listed intoxication as 10 one of the criteria for dependence, for 11 addiction? 12 A. Factually what you said is true, we can go back 46 years and find that that word was used 13 based on 1950's criteria from WHO. 14 15 The point is it is a long time ago. 16 Q. Okay. Hopefully we're past the traditional sentence now. What is your next 17 point of disagreement? 18 19 A. Number E, in order to determine whether 20 a given individual is dependent upon a given 21 substance, it is necessary that a licensed COURT REPORTING CONCEPTS, INC. Baltimore, Maryland Phone (410) 821-4888 Fax (410) 821-4889 124 psychologist or psychiatrist (extensively trained 1 in mental health assessment) conduct a specific evaluation of that person using established criteria, and basing the diagnosis upon the 5 clinical significance of the behaviors in 6 question and upon ruling out other medical or 7 psychiatric factors which account for the 8 behaviors. 9 Now, as this stands, it is hard to 10 evaluate it. If all he means is to be paid for a service that requires that that diagnosis be 11 12 conducted, as he has described it, then that's true. He has not qualified this, that he means 13 14 this is only to be for him to be reimbursed for a 15 service. 16 So I think it is reasonable to assume,

since he hasn't qualified it, that he means that

17

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you can't tell if an individual is dependent
      unless all of this is done by a licensed
19
20
      psychologist or a psychiatrist. And that flat
21
      out is at odds with the Clinical Practice
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                                                     125
      Guideline that was listed in 1976 by the U.S.
 1
      Agency for Health Care Policy Research and
      updated this past June and released by the U.S.
 3
      Public Health Service.
 5
            Q. Okay.
 6
           A. So he is way out on a limb there.
 7
            Q. Let me ask you specifically about the
 8
      statement F on the top of page four regarding
9
      nicotine dependence. A diagnosis of such a
10
      condition would have no predictive value
11
      whatsoever, in determining whether or not a
12
      motivated individual would or would not choose to
13
      quit smoking. Is that a correct statement?
           A. Is it a statement that he wrote or what
14
15
      was the question?
           Q. Is that an accurate statement?
16
17
           A. That is a ridiculous statement.
18
            Q. Tell me why.
           A. Anybody that is familiar with clinical
19
      trials that have been conducted on smoking
20
      cessation can see that one of the most important
2.1
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                                                     126
      factors is number of cigarettes, one of the most
      important factors in determining outcome is the
      level of dependence, as inferred from either
      objective biological markers such as plasma
      nicotine or codamine level or carbon monoxide
 6
      level which are associated with nicotine intake
 7
      or indices such as the Fagerstrom questionnaire
 8
      items, or even relatively crude markers such as
9
      the number of cigarettes smoked per day.
              Now, another factor is also the
10
      motivation that is demonstrated, but to make this
11
      statement "has no predictive power whatsoever" is
12
13
      so at odds with the world literature that it is
14
      what led to my earlier comment questioning his
15
      expertise.
16
           Q. Let me ask you the question this way,
17
      and you began to answer this in part, I think:
18
      What factors are most predictive with respect to
      whether a current smoker will become an
19
20
      ex-smoker?
21
           A. The first factor is pretty obvious,
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      whether or not the person is trying to quit
 1
      smoking, and there are many dependent individuals
 2
 3
      that, at any given point, are not trying to quit
       smoking, and spontaneous cessation, what is
       sometimes called spontaneous remission, which is
```

6 people just out of nowhere, for no apparent 7 reason, stopping, is rare. Я So the first condition is the same as we 9 see for any addictive drug. The person is motivated enough to try to quit. 10 11 Beyond that, factors such as treatment resources, social and/or professional support and 12 13 specific treatments are important for all addictions. And for all addictions, the level of 14 dependence can be a factor; but in any give 15 study, the level of dependence, depending on how 16 17 it was assessed, may or may not have proven statistically significant. 18 19 In the case of tobacco, there is a 20 stronger relationship between objective factors 21 such as number of cigarettes per day, plasma COURT REPORTING CONCEPTS, INC. Baltimore, Maryland Phone (410) 821-4888 Fax (410) 821-4889 128 levels of nicotine and treatment outcome. Q. Am I correct that the factor that is most predictive of whether a smoker will become 4 an ex-smoker is whether they are motived and 5 attempt to quit? 6 A. By definition if they don't attempt to 7 quit, they are extremely unlikely, so at one level, the level of motivation is generally 8 9 regarded as an important factor for all 10 addictions. 11 At another level, by definition, 12 quitting doesn't occur, unless there is some 13 level there. Q. I should have said level of motivation. I understand they don't become ex-smokers without 15 16 attempting to quit. But am I correct that the level of motivation is the factor that is most 17 predictive of whether a smoker will become an 18 19 ex-smoker? 20 A. Say that once more, please. 21 Q. Am I correct that the level of COURT REPORTING CONCEPTS, INC. Baltimore, Maryland Phone (410) 821-4888 Fax (410) 821-4889 129 1 motivation to quit is the factor that is most predictive of whether a smoker will become an 2. 3 ex-smoker? A. In some studies, it isn't even assessed. 5 In a lot of studies that have looked at 6 motivation, especially some of the older studies, 7 they didn't have an objective way of looking at 8 nicotine dependence, so to find that motivation 9 wasn't a factor when they didn't have a way of 10 looking at nicotine dependence, I'm not sure how 11 meaningful the outcome of those studies are. 12 In the last approximately 15 to 20 13 years, where we now have the benefit of dozens and dozens of objectively run multi-center 14 15 clinical trials, where people were diagnosed, and 16 where biological markers of nicotine intake were 17 collected, one of the most important outcome 18 factors is level of dependence, as inferred from

```
19
      biological exposure, proxy measures, such as the
20
      Fagerstrom tolerance questionnaire items, or
21
      cigarettes per day.
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                                                     130
               MR. FURR: Okay. Let's go off the
      record.
                (Break.)
 3
 4
                (Lunch.)
               Okay. Ready? Dr. Henningfield, let me
 5
      hand you what we have marked as your Deposition
 6
 7
      Exhibit 7 and have you review that and verify for
 8
      us that is a copy of your expert disclosure
 9
      in this case.
10
                  (Whereupon, Henningfield Deposition
11
      Exhibit No. 7, expert disclosure, marked.)
12
           A. Yes. It is.
13
            Q. I want to ask you some questions about
      it. You see the heading subject matter and
14
15
      anticipated testimony on the first page?
16
            A. Yes.
17
            Q. It states Dr. Henningfield will testify
      the defendants control of nicotine levels and
18
19
      delivery and will describe the various cigarette
      design methods relevant to such control.
20
21
               What do you anticipate your testimony to
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                                                     131
      be regarding defendants' control of nicotine
 1
      levels and delivery?
           A. Working from the general to the more
 3
       specific, at the general, that levels of nicotine
 5
      in the cigarette and yield from the cigarette to
 6
      a machine and delivery to a cigarette smoker are
 7
      controlled.
 8
               And they are controlled through a
 9
      variety of physical and chemical and you can
10
      consider chemical physical obviously, but I'm
      differentiating between physical design
11
12
      characteristics and chemical means of control.
13
           Q. Okay. What are the physical means by
14
      which the defendants, in your opinion, control
15
      the nicotine levels and delivery in their
16
      products?
17
           A. These include a number of features, a
18
      prominent one being the amount of tobacco that is
19
      in the cigarette, the ventilation that is used in
20
      the cigarette, the paper and filter, the porosity
21
       of the paper, filter overwrap which may cover
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                                Fax (410) 821-4889
                                                     132
      some of the tobacco in the cigarette.
               Those are the major physical design
 3
      elements that I would anticipate talking about.
 4
           Q. Okay. What is the basis for your
 5
       testimony regarding the physical design elements
       through which defendants, in your opinion,
```

controlled the nicotine in their cigarettes and 8 the smoke? 9 A. Do you mean what would I say? You said 10 what is the basis? 11 Q. Right. What are you basing your 12 testimony on in that regard? 13 A. My own physical examination of 14 cigarettes and my review of the published literature over the last approximately two 15 16 decades and on tobacco industry documents that have described these elements of cigarette design 17 and manufacture. Q. What tobacco industry documents are you 19 20 relying on? 21 A. I don't have a list in front of me, but COURT REPORTING CONCEPTS, INC. Baltimore, Maryland Phone (410) 821-4888 Fax (410) 821-4889 they would be among those that I relied upon for the Washington State Attorney General's trial in 1998, and could rely upon others that have been disclosed that are accepted between the 5 plaintiffs and the defendants in this case. 6 What I mean by that is: I see new 7 documents quite frequently. Some of them are interesting. I have not seen any that changed, 8 9 in the last two years, that changed my opinions, that I was issuing in the Washington case, and so 10 11 if it was determined that I was restricted to 12 those, that would be fine. 13 Q. Okay. Can you identify for me the R.J. 14 Reynolds documents that you would rely upon as a basis for your opinions about the physical 15 techniques by which Reynolds has controlled the 16 17 nicotine in its cigarettes and the yield in 18 cigarette smoke? A. I can. I do not have a listing in front 19 2.0 of me. 21 Q. Can you identify for me the documents COURT REPORTING CONCEPTS, INC. Baltimore, Maryland Phone (410) 821-4888 Fax (410) 821-4889 that you rely on for that proposition from Philip 2. Morris? 3 A. And I can, but I do not have the listing in front of me. Q. Can you identify me those documents for 6 Lorillard? 7 A. I can, but I do not have the listing in 8 front of me. 9 Q. Can you identify for me those documents 10 for B & W? 11 A. I can, but I do not have the documents 12 in front of me. Q. Do you have a list of those documents in 13 14 front of you? A. No. I do not. 15 16 Q. Do you have a list of those documents in 17 your files somewhere? 18 A. I have documents in a variety of files. 19 I would have to spend some time putting together

```
20
      a new listing. I can do that.
21
           Q. I will ask that you do that, that you
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                                                     135
      put together a list of the documents that you
      rely upon from the company's files, both for this
      issue and for any other issues that you are
      prepared to offer opinions on, and that you
 4
 5
      provide that list to Mr. Gruenloh. Are you
      willing to do that?
 7
           A. Yes.
 8
            Q. What I will ask you on the record is
      that you provide it to us, and that we are
 9
10
      provided an opportunity to question
      Dr. Henningfield about those documents and the
11
12
      manner in which he relies upon them as I think we
13
      we are entitled to do.
               MR. GRUENLOH: The list of documents is
14
15
      the same list of reliance materials provided in
      the Washington AG case. We have indicated in the
16
17
      past that the reliance materials for experts such
18
      as Dr. Henningfield, experts whose opinions have
19
      not significantly changed for this case are the
20
      same as that list. If that list is any
      different, then you should be entitled to ask
21
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                                                     136
       questions about those specific documents.
 1
               MR. FURR: Well, the fact that he may or
      may not have been asked some questions in the
      past about documents that may or may not be the
 5
      documents that he is currently relying upon does
 6
      not in any way undermine my right to know which
      documents he is relying on in this case, to have
 7
 8
      him identify for me those documents, to have him
9
      explain to me how those documents support his
10
      opinions, so that I can ask him questions about
11
      it. And that's going to be my position, and I
      think that others may want to comment on this.
12
               MR. GRUENLOH: If I could, before you
13
14
      do, Bill, the only point I'm making is that I
15
      think that you were on notice prior to this
      deposition, of Dr. Henningfield's reliance
16
17
      materials, because we indicated in the past and
18
      all along, that our position is that those
19
      reliance materials are the same as the reliance
20
      materials in this case. That's all I'm saying.
21
               MR. NEWBOLD: I'm Bill Newbold. I
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                                                     137
      represent Lorillard Tobacco Company. I will
 1
      adopt the comments made by Jeff Furr and add to
      that, as I sit here, I'm not sure whether or not
 4
      we were on notice, whether we were told what
 5
      documents he was going to rely upon in the
      Washington case.
               Even if we were, it makes no difference,
```

8 because this is a medical monitoring case in West 9 Virginia, this is the first medical monitoring 10 case to be tried in the State of West Virginia 11 under specific West Virginia laws. Dr. Henningfield has been hired to give 12 13 specific opinions and obviously he will give 14 specific opinions about specific companies 15 relying upon specific documents in this case, and 16 we have a right to know what are the documents, 17 we have the right to question him about the opinions and the to test the opinions. I will go 18 19 on the record right now as telling you that when 20 we receive this list of what he has relied upon 21 in forming his opinions, that we will be asking COURT REPORTING CONCEPTS, INC. Baltimore, Maryland Phone (410) 821-4888 Fax (410) 821-4889 138 the court for a second day of deposition of Dr. Henningfield. 3 MR. GRUENLOH: Before we go on, I would point out at the end of Dr. Henningfield's 5 disclosure, it does state that he has previously 6 stated his opinions on these matters in his 7 depositions and trial testimony in the State of 8 Washington versus Philip Morris, videotape sworn testimony in the State of Florida and his prior 9 testimony and those opinions are incorporated 10 herein by reference. So I think that you are on 11 12 notice that the reliance materials were the same. 13 MR. NEWBOLD: The disclosure that you 14 read from says absolutely nothing about whether the documents upon which he is relying in this 15 case are the same documents upon which he relied 17 in the Washington case. It goes on to say he may 18 review additional documents produced by the 19 defendants, and plaintiff reserves the right to supplement his disclosure, so that in both cases, 20 21 I stand on what I said before, this document did COURT REPORTING CONCEPTS, INC. Baltimore, Maryland Phone (410) 821-4888 Fax (410) 821-4889 139 not put us on notice that his opinions would be based upon the documents that he relied upon in 3 Washington, and it further goes on to say that he may review additional documents that may be 4 5 produced in the future, and I simply restate the 6 fact that we will be asking for additional time 7 in which to question Dr. Henningfield. 8 MR. FURR: Anyone else? 9 MR. KLEIN: We join. 10 MR. WOOLSON: We join. 11 MR. FURR: Anybody on the phone for B&W? 12 MS. CALLAS: Yes, this is Gretchen 13 Callas. We also join in that objection. 14 Q. All right, Dr. Henningfield. Identify for me, if you would, the published literature 15 which you reviewed and upon which you rely for 16 17 the opinions you have about the manner in which 18 the defendants have physically controlled the 19 amount of nicotine in their cigarettes and the 20 smoke yield of nicotine?

21 The public literature, the major COURT REPORTING CONCEPTS, INC. Baltimore, Maryland Phone (410) 821-4888 Fax (410) 821-4889 140 document is that proposed rule by the Food and Drug Administration from August, 1995, and the final rule issued by the Food and Drug Administration on tobacco in August of 1996, is 5 probably one of the most comprehensive single 6 publicly available documents or set of documents. 7 There are other public literature 8 documents, such as Colin Browne, B-R-O-W-N-E, his 9 monographs, I believe the most recent one was in 10 1990, which describes various elements of 11 cigarette design and delivery control. 12 The documents or the published 13 literature from scientists at the American Health 14 Foundation, generally under the Dietrich Hoffman 15 group, which have analyzed and described various 16 elements of cigarette dosage control, design. 17 Descriptions of cigarette design and 18 dosage control by Drs. William Rickert 19 R-I-C-K-E-R-T and John Slade, S-L-A-D-E. And I 20 believe I previously listed the documents from 21 the Action Office on Smoking and Health of the COURT REPORTING CONCEPTS, INC. Baltimore, Maryland Phone (410) 821-4888 Fax (410) 821-4889 1 United Kingdom and their analyses of cigarette dosage control and design. These are primary 2. 3 documents. As I mentioned earlier, I follow the 5 literature virtually every day of the week, I 6 read something in the tobacco literature, which gives me additional insights, but those are some 7 of the literature that I consider extremely 8 9 useful and publicly available. 10 Q. Which documents by Dietrich Hoffman and 11 the American Health Foundation do you rely upon? 12 A. One of the documents that provides a nice summary of a lot of additional materials, is 13 the 1997 review by Hoffman and Hoffman, Dietrich 14 15 and Yolsa Hoffman, on cigarette design, I do not 16 recall the title of the review article, but it is 17 a major review article. 18 Q. Who is -- I'm sorry, go ahead. 19 A. That document in turn refers to more 2.0 specific studies that he and his colleagues have 21 conducted. COURT REPORTING CONCEPTS, INC. Baltimore, Maryland Phone (410) 821-4888 Fax (410) 821-4889 142 1 Q. Which documents by Dr. Slade are you relying upon? 3 A. His 19, I believe, 1993 review of cigarette design in the textbook that is edited 5 by Tracey Orleans and John Slade on cigarette 6 design, and, as well, frankly, as the paper that 7 I co-authored by Dr. Slade, Slade and Henningfield, The Food and Drug Law Institute,

9 10 Q. Which documents from the United Kingdom 11 Action Office on Smoking and Health are you 12 relying on? A. They have a document on light 13 14 cigarettes, and I do not recall the title, but I believe it is the only, I believe there is only 15 16 one document that has the word "light cigarettes" in the title. I believe the publication was 17 18 1998. 19 Q. Tell me about this physical examination 20 of cigarette products that you have conducted 21 yourself. COURT REPORTING CONCEPTS, INC. Baltimore, Maryland Phone (410) 821-4888 Fax (410) 821-4889 143 A. I have taken cigarettes apart, dissected 1 them, if you will, to examine them for physical design characteristics that might be evident upon such inspection, such as the placement of tobacco filter overwrap, placement of the ventilation 5 holes in the filter and the filter paper. And I 7 conducted such a dissection in the Washington 8 State trial, which is on record. 9 Q. What specific tobacco brand styles have 10 you physically examined? A. Boy, I have looked at dozens of them 11 12 over the years. Certainly there is a Marlboro 13 and Marlboro Light and Carlton and Winston and Camel, Parliament, Newport, True, Basic -- when I 14 15 say the brands, each brand has a whole family, 16 and I don't remember which cigarettes in the family, hard pack, soft pack, so forth. This is 17 not inclusive, but all of the brands I just 18 19 mentioned are ones that come to mind. 20 Q. When did you perform those examinations? 21 A. Over the past several years. COURT REPORTING CONCEPTS, INC. Baltimore, Maryland Phone (410) 821-4888 Fax (410) 821-4889 Q. When did you begin examining cigarette 1 products? A. I do remember an even more crude level 4 than I am describing, I guess in the late 1970's, 5 but frankly didn't know a lot what to look for at 6 that time, but I did some physical examinations 7 for the purposes of research that I was doing at 8 the Johns Hopkins Medical School. 9 And I guess the most recent examinations 10 have been right up within the last couple of 11 months. I don't have dates at which these were 12 conducted, but this has been a fairly regular 13 activity, to look at brands and look at some of 14 the new brands that come on the market and 15 examine them. Q. Why do you perform such examinations? 16 17 A. To see if there are things that might be 18 visibly obvious that might be relevant to the 19 dosing control or the means of dosing control of 20 the cigarettes. 21 Q. Describe for me your background and

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training that you have received in how to examine physically cigarette products to evaluate the manner in which dose is being controlled of nicotine and delivery from those cigarettes.

A. It is a lot of different sources of

A. It is a lot of different sources of information. My formal training is in psycho pharmacology, a major element of which is the importance of dosage control.

So that provides a general basis of knowledge for the importance of dosage control with drugs in general.

We move from there to cigarettes, where, in 1978, when I was specifically hired as a faculty member at Johns Hopkins Medical School to become more expert in cigarette design, in particular, and at that time, sources of information included materials ranging from the Tobacco Reporter which would describe various elements of tobacco manufacture and design, to literature that at that time I received from the office On Smoking and Health at the Centers for COURT REPORTING CONCEPTS, INC.

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Disease Control.

2.1

In the early eighties I was working with people in the Office on Smoking and Health at the Centers for Disease Control, who had expertise, I don't know what the source of their expertise was, but staff who would also discuss and explain different elements of dosage control.

The National Cancer Institute issued monographs as part of the product of its program of studying alternative cigarette designs in the 1970's. This was a source of information.

Later in the 1980s, other professionals in the field, including Len Koslowski, John Slade, people from the Addiction Research Foundation in Toronto, including Len Koslowski, such as Dr. Richard Precker.

 $\,$ I'm not sure at what point I met and spoke to Dr. William Rickert, who was another authority on cigarette design.

So this is not comprehensive, but you asked me what I learned and what is the basis, COURT REPORTING CONCEPTS, INC.

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these are some of the people that provided guidance and some of the sources of literature and formal sources of information.

- Q. Do I understand that one of the sources of information that you have reviewed are the monographs issued by the National Cancer Institute's Tobacco Working Group?
- A. Correct.
 - Q. Let's go back to what it is you are

10 prepared to say about the dosage control through 11 these physical techniques that you have 12 described. 13 What are the opinions that you are prepared to express in that regard? 14 15 A. The first baseline opinion is that nicotine dosing capacity of a cigarette is not 16 simply an inadvertent effect of how much nicotine 17 happens to be contained in the tobacco that is 18 19 used to manufacture the cigarette, but that 20 nicotine itself is highly controlled, and I 21 concur with the opinion of the Food and Drug COURT REPORTING CONCEPTS, INC. Baltimore, Maryland Phone (410) 821-4888 Fax (410) 821-4889 Administration which concluded that the nicotine 1 dosage control was well within the range of that 2. 3 that they expect in pharmaceutical products. The second major category of opinion is 5 that the dosage control is an element of cigarette design that is integrated with 6 7 cigarette marketing, such that, in cigarette 8 advertising and other marketing techniques, 9 claims can be made, such as lower levels of tar 10 and nicotine or reduced tar and nicotine or labeled such as "light" while also making the 11 claim that people do not have to sacrifice taste, 12 flavor or satisfaction, where these words or 13 14 other various words are used, and that the 15 nicotine dosage control in the cigarettes is integral to that marketing effort. 16 17 Those are the two -- well, I guess the third one that follows from that is the fact that 18 19 the advertised nicotine delivery or yield ratings 20 are misleading to consumers, and that these 21 various aspects of cigarette design and COURT REPORTING CONCEPTS, INC. Baltimore, Maryland Phone (410) 821-4888 Fax (410) 821-4889 manufacture are part of the basis for the fact that the advertised ratings are misleading. Those are the three major elements that 3 I discussed in the Washington State trial and 5 that I would anticipate discussing again in this trial. 6 7 Q. Let me ask you about the first. If you 8 are correct, that nicotine dosing capacity is 9 controlled through a number of design elements, 10 is there something that you find to be 11 inappropriate about that? 12 A. It depends on the context. If the 13 context is that the manufacturers are claiming, 14 as they have at various times in the past, that 15 nicotine is a natural part of the tobacco product and is, therefore, as part of its natural 16 occurrence in the plant, then I see no reason 17 18 that it would be manipulated so exquisitely, or 19 if when it was removed in the process of making 20 reconstituted tobacco, for example, that it would 21 be put back with such precision. COURT REPORTING CONCEPTS, INC.

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1 Now, if the tobacco companies are sticking with the more recently articulated positions, such as the Philip Morris web site that admits that nicotine is addicting, then such 5 dosage control would be expected but not 6 necessarily something that is desirable to public 7 health. 8 Q. Let's take care of the easy issues 9 first. You and I are not going to have to debate 10 long, I hope, about whether or not nicotine is a 11 natural part of the tobacco plant, correct? 12 A. No, depending upon what your position 13 is. 14 Q. Nicotine is a natural occurring alkaloid 15 in the tobacco plant, correct? A. Correct. 17 Q. It is not something that the cigarette manufacturers put there. It is a natural 18 alkaloid that occurs when the tobacco plant 19 2.0 grows, correct? A. Well, cigarette manufacturers put it in 21 COURT REPORTING CONCEPTS, INC. Baltimore, Maryland Phone (410) 821-4888 Fax (410) 821-4889 151 the cigarette when they remove it. Q. I'm just talking about the plant now. If 3 you will try to focus on the question, I'll do my 4 best to get as far as I can today. I understand 5 you have a lot of opinions. I want to hear them all. I want to hear them when they match the 7 question I ask. 8 A. Yes. You said there, and I should have 9 asked you what you meant by there. Q. Now, help me understand what it is you 10 11 find to be inappropriate about the cigarette 12 manufacturers manufacturing a product that has a 13 consistent yield of nicotine under FTC 14 conditions? A. That's not what I said. 15 Q. Do you find that to be inappropriate? 16 17 A. Do I find it to be inappropriate that they would maintain consistency? 18 19 Q. Yes. 20 A. Not necessarily. 21 Q. Explain to me what you find to be COURT REPORTING CONCEPTS, INC. Baltimore, Maryland Phone (410) 821-4888 Fax (410) 821-4889 152 1 inappropriate about cigarette manufacturers controlling the nicotine dosing capacity of 3 cigarettes. A. It is controlled in such a manner as to 5

deceive consumers, and that, I believe, is inappropriate.

Q. Do you believe that cigarette manufacturers intentionally controlled the delivery of nicotine in their products in a manner to deceive consumers?

6

7

8

9

10

11 Α. Yes. Q. What's your basis for that belief? 12 13 A. Well, for example, in the case of the 14 ventilation holes, they frequently hide the ventilation holes, and the manufacturer 15 16 understands, and is on record for understanding that to achieve the level of nicotine yield that 17 18 is advertised, those holes cannot be blocked, yet 19 they are, in many cigarette brands, deliberately 20 placed in such a way that they are virtually invisible and placed in such a way that it is 21 COURT REPORTING CONCEPTS, INC. Baltimore, Maryland Phone (410) 821-4888 Fax (410) 821-4889 153 almost unavoidable that at least some of the time they will be blocked. 2. 3 Q. What's the basis for your belief that the manufacturers hide the ventilation holes or deliberately place them in a way that they are 6 virtually invisible? 7 A. Well, for example, I can remember 8 Tobacco Reporter advertisements for ventilation 9 technology, which advertised that they could make 10 them so they were visible or invisible; and, in 11 fact, on many brands, they are extremely difficult to see. And if this is an integral 12 part of the operation that they not be covered, 13 then it doesn't make any sense that they would be 14 15 made invisible or there would not be some 16 guidance to consumers. 17 Q. Who issued these advertisements in the 18 Tobacco Reporter claiming they could make ventilation holes invisible or visible? 19 20 A. I don't remember which companies that I 21 saw, but that is not the only -- the main basis COURT REPORTING CONCEPTS, INC. Baltimore, Maryland Phone (410) 821-4888 Fax (410) 821-4889 154 for my opinion is the evidence of the cigarettes themselves that are presently on the market. I 3 just mentioned that it was quite a while ago that 4 it was brought to my attention reading Tobacco 5 Reporter. 6 Q. I'm not going to disagree with you about 7 some products have ventilation holes and they can 8 sometimes be difficult to see. 9 What I want to know is your basis for 10 believing that that circumstance is a result of a 11 deliberate attempt by cigarette manufacturers to 12 mislead consumers. 13 A. Well, here the physical evidence is 14 supplemented by documents, such as those, and I'm 15 paraphrasing, which state that, I recall one 16 document talking about the importance of finding 17 means to circumvent the testing apparatus that 18 quote do not invite obvious criticism. Another 19 document --20 Q. Excuse me. Let me ask you about that. 21 Whose is that? COURT REPORTING CONCEPTS, INC. Baltimore, Maryland

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                                                     155
            A. It might be Brown & Williamson, but it
 1
 2
       could be most of the major companies that I have
      seen. I'm saying most, because I do not have a
      document from every single company. But at least
 5
      documents representing Brown & Williamson, in
      come cases its parent or affiliate, British
 7
      American Tobacco, Philip Morris, I believe
 8
      Liggett, R.J. Reynolds, which have similar kinds
 9
      of statements.
10
            Q. For each company, I want you to list for
      me the documents that you rely upon for the
11
12
      proposition that the companies have deliberately
13
      misled consumers through the utilization of
14
      ventilation hole technology and I would like to
      know who wrote the document, when it was written,
15
      who the document was sent to and how that
16
17
      document was utilized by the company.
18
            A. Now, you misstated something I said,
19
20
      of the techniques to ventilation hole technology.
21
```

- which is attributing all of the documents and all
 - Q. That's the only one I'm asking you about COURT REPORTING CONCEPTS, INC.

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now.

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A. Okay.

- Q. We have been talking about ventilation hole technology and you have told me in part you are relying upon the documents, and I want to know for each company which documents you relied upon, who wrote them, when they received them, and how they were utilized in the company.
 - A. Okay.
 - Q. Can you do that?
 - A. Sure.
- 12 Q. Go ahead.
- 13 A. Oh, not offhand. I can prepare it for 14 you.
 - Q. Will you do that?
 - A. Sure, be happy to.
- 17 I don't want to belabor this all day, 18 but what I want to ask you to do is to provide a 19 list to Mr. Gruenloh of all of the company 20 documents for each company, for each issue, that 21 you rely upon as a basis for your opinions? COURT REPORTING CONCEPTS, INC.

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A. I will work with Mr. Gruenloh and his 1 staff to compile such a list.

MR. NEWBOLD: I would like to put this on the record, and that is the notice of deposition that was served on plaintiffs and on Dr. Henningfield required that he bring with him any and all documents that he relied upon or reviewed in forming the opinions that he would render in this case.

Any and all documents in his possession which support or relate to the opinions that he

12 would render in this case. 13 He has not brought any of those 14 documents with him. In response to questions by 15 Mr. Furr about documents, he says he doesn't have them. He doesn't even have a list of what they 16 17 This is highly improper and makes it 18 19 impossible for us to conduct a proper examination 20 of Dr. Henningfield to explore the basis of his 21 opinions. COURT REPORTING CONCEPTS, INC. Baltimore, Maryland Phone (410) 821-4888 Fax (410) 821-4889 158 MR. GRUENLOH: I think those comments 1 were at least in part incorrect. 3 Dr. Henningfield did bring two documents which are new to his analysis and specific to his 4 5 analysis to West Virginia. And I think this goes back to the issue that the reliance materials for 6 7 this case are the same as the reliance materials that he has relied upon in the Washington and the 8 9 Florida case, and as I stated before, I think you are on notice as to those documents. But I guess 10 we'll have to agree to disagree on this point. 11 12 MR. NEWBOLD: That's a very interesting comment, but the notice says you are further 13 notified that the defendants are requesting that 14 15 the deponent identified herein, Dr. Henningfield, 16 bring with and produce at their depositions the 17 documents described in the schedule of documents 18 attached hereto as notice Exhibit A, and I read 19 through those earlier, and Dr. Henningfield shows up today with two pieces of paper and doesn't 20 21 have any documents upon which he is basing his COURT REPORTING CONCEPTS, INC. Baltimore, Maryland Phone (410) 821-4888 Fax (410) 821-4889 159 opinions today and that is highly inappropriate. 1 MR. FURR: Here is part of the problem, 3 Mike. If you had called me and said what you said today and that he wasn't going to bring any 4 of those documents with him, but if I wanted to 5 6 ask any questions about them, I would have to 7 bring them with me, then I would have known to do 8 that. But not having heard an objection from 9 you, with respect to the request made in our document request, I think we had the right to 10 11 assume that he would bring such documents with 12 13 MR. GRUENLOH: The only problem I have 14 with that, Jeff, is this is the way we handled it 15 in Dr. Burns' deposition, this is the way we 16 handled it in Dr. Benowitz deposition, and this 17 is the way we handled it in Dr. Ferone's depositions. There was correspondence in those 18 depositions. I apologize we did not send you 19 20 explicit correspondence setting out that would be 21 the way we would be handling it in this COURT REPORTING CONCEPTS, INC. Baltimore, Maryland Phone (410) 821-4888 Fax (410) 821-4889

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deposition as well. I thought that point had
 1
 2
      been gone over and belabored enough.
 3
               MR. FURR: When you made those points
      for Dr. Benowitz and Dr. Burns, we did not raise
 5
      this issue we are raising today, because we had
 6
      the information we needed to make conscious
 7
      choices about what documents to bring with us.
 8
      But having established that pattern of conduct
 9
      and then not acting in the same manner with
10
      respect to this witness, the obvious
11
      interpretation for me, and I submit the only
12
      interpretation to be made, was that he was going
13
      to bring his documents with him. And having not
14
      done so, we are put in a position where we can't
15
      fairly probe his opinions. I'm not accusing you
16
      of doing it intentionally. I want you to
17
      understand the reasoning and maybe having heard
18
      that, you will agree that since we are not going
19
      to finish today anyway, in all likelihood, that
      the fairest thing to do is for you and
2.0
2.1
      Dr. Henningfield to undertake, as he has
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                      Baltimore, Maryland
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                                                     161
      volunteered to do, to develop the list of
      documents that we have requested and provide it
 3
      to us in a manner that will allow us to hopefully
      effectively and expeditiously proceed to examine
 5
      him on the document-based portion of his
 6
      opinions.
 7
               MR. GRUENLOH: I'm not going to agree to
      that here. Because from what we did at the prior
9
      depositions there was a clear course of
10
      procedure. I would also point out that you are
11
      quoting the schedule of documents that the
      defendants made of us like it is a ruling the
12
13
      court has issued. That was a request you made of
14
      us, we were under no obligation to do that.
15
      would be interesting to see in the depositions
16
      that are coming up in the next two or three
      weeks, with all of your experts, if you do the
17
18
      same.
19
                But as we sit here today, I'm not
20
      willing to agree to that.
21
                MR. FURR: I think the facts are on the
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                      Baltimore, Maryland
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                                                     162
 1
      record.
 2
                MR. GRUENLOH: Yes, I do, too.
 3
            Q. All right, Dr. Henningfield. Let's go
 4
 5
                MR. LONG: Mr. Furr, may I inquire on
 6
      that issue, when we can expect your expert
 7
 8
               MR. FURR: We will be glad to discuss
 9
      this in a manner that doesn't disrupt this
      deposition at the end of the day.
10
11
            Q. Dr. Henningfield, identify for me now,
12
      please, the chemical techniques that you believe
```

13 that the cigarette manufacturers have used to 14 control the nicotine dosage in their products in 15 smoke? 16 A. There are a variety; and I will list them not necessarily in order of prominence. 17 18 The first is the inclusion of reconstituted tobacco or sheath material that has 19 been stripped of much of its nicotine with 20 nicotine and other substances. 21 COURT REPORTING CONCEPTS, INC. Baltimore, Maryland Phone (410) 821-4888 Fax (410) 821-4889 163 That treatment can also include 2 substances such as glycerin, that can maintain moisture and affect the ultimate yield of 4 nicotine from the burned cigarette. 5 Substances such as glycerin can also be added to tobacco leaf and tobacco material that has been cut to affect moisture and other aspects 7 8 of burning and, in turn, affect dosage control. 9 Burn accelerants are used in the paper 10 not only to maintain the -- not only to keep the 11 cigarette from spontaneously extinguishing, but 12 also to influence the burn rate, which is another 13 means by which the nicotine yield determined by a smoking machine will be controlled. 14 15 Additives such as sugars can be added in such a manner that chemicals such as acetaldehyde 16 17 can be formed which can interact with the effects 18 of nicotine. 19 Ammonia compounds have been described 20 extensively in tobacco industry documents as a means of controlling nicotine yield and/or COURT REPORTING CONCEPTS, INC. Baltimore, Maryland Phone (410) 821-4888 Fax (410) 821-4889 164 availability as well as other aspects of 1 cigarette pharmacology and the sensory effects. These are some of the prominent ones that I think are important to call attention to and that have been discussed in detail in tobacco 5 industry documents and have been reviewed by the 6 7 U.S. Food and Drug Administration. 8 Q. Let me start with the use of ammonia 9 compounds that you say has been extensively 10 documented in tobacco industry documents. Can you identify which documents you 11 12 relied upon for that proposition for each of the 13 cigarette manufacturers that are defendants in 14 this case? 15 A. Yes. But I do not have them with me. 16 Q. So as you sit here today, you are unable 17 to identify for me the title, date, author, 18 recipients or specific language contained in any 19 of those documents, correct? 20 A. I can tell you that all of those that I would need to rely upon for this case have been COURT REPORTING CONCEPTS, INC. Baltimore, Maryland Phone (410) 821-4888 Fax (410) 821-4889 165

disclosed. 2 Q. That's not my question. 3 A. Well, you have interrupted me. Q. I want you to try to answer the question I'm asking. I know about this, your belief that 6 I should have gone though the Washington 7 transcript or something like that and tried to 8 determine what documents you relied on. I understand that. That's not my question. 9 10 My question is: As you sit here today, 11 can you identify for me, for each company, which 12 documents you are relying upon as a basis for 13 your opinion regarding the use of ammonia by 14 identifying either the title of the document, the 15 author, the date, the recipient or the specific 16 language contained in the document. 17 MR. GRUENLOH: If you want to testify on behalf of Dr. Pen Henningfield you we can just 18 19 leave. But if you want to let him answer, maybe 20 we can see what he is saying. 21 MR. FURR: Go ahead and answer. COURT REPORTING CONCEPTS, INC. Baltimore, Maryland Phone (410) 821-4888 Fax (410) 821-4889 166 A. I already provided specific lists and names for numerous depositions and trial to the then tobacco industry depositions. I don't have them with me today. 5 Q. Tell me something. When you read the 6 schedule of documents that you said was sent to 7 you -- by the way, who sent it to you? 8 A. When I read what? 9 Q. The schedule of documents that was attached to your deposition notice. You told me 10 11 that someone sent you the schedule of deposition 12 documents? A. This was sent to me, and the fax time 13 and date are on the document, and it was from the 14 15 offices of Ness Motley, I don't know which 16 individual sent it. 17 (Whereupon, Henningfield Deposition Exhibit No. 8, schedule of documents, marked.) 18 19 Q. Let me ask you to look at what is marked 20 as Deposition Exhibit No. 8, which indicates, 21 have you confirmed to us that that is the COURT REPORTING CONCEPTS, INC. Baltimore, Maryland Phone (410) 821-4888 Fax (410) 821-4889 167 schedule of documents faxed to you by Ness Motley? 3 A. Yes. It is. Q. It shows it was sent to you on August 21st at 4:30, correct? 6 A. 4:34 p.m. 7 Q. Did you have any discussions with 8 anybody at Ness Motley with respect to your 9 obligations to comply with the requests made in 10 this document? 11 A. I believe that I spoke to Mr. Gruenloh, 12 and that my interpretation, I don't recall if I 13 asked or if I expressed that my interpretation

was that this would be new documents and not 15 things which I had been queried about numerous 16 times in numerous depositions and in trial. 17 Q. Did Mr. Gruenloh tell you that you did not have to bring with you documents that you 19 have, other than your new documents? A. I don't recall if he said that was 20 21 acceptable or not, but that I should be here for COURT REPORTING CONCEPTS, INC. Baltimore, Maryland Phone (410) 821-4888 Fax (410) 821-4889 168 the deposition regardless. Q. How did you make the decision not to bring the documents with you? A. Well, if he would have said, look, you 5 can't come to the deposition, or his understanding to the best of my knowledge, seemed 6 7 similar to my understanding, this is ground that 8 we have gone over many, many times, and that this 9 was reasonable and that this was consistent with 10 this whole process. I don't think we discussed it for more 11 12 than a minute or two, and you will have to ask 13 him, but that's the best of my recollection. 14 Q. Okay. Let me ask you about the use of 15 ammonia compounds in the manufacture of 16 cigarettes. You testified that the use of ammonia 17 18 compounds influences the bio availability of 19 nicotine, correct? 20 A. Correct. 21 Q. What do you mean by that? COURT REPORTING CONCEPTS, INC. Baltimore, Maryland Phone (410) 821-4888 Fax (410) 821-4889 169 A. Well, by bio availability, I mean that the amount of nicotine that actually gets into 3 the body of the cigarette smoker, into the bloodstream from the cigarette tobacco rod. A 5 determinant of how much nicotine gets into the 6 bloodstream includes how much nicotine is 7 extracted from the tobacco rod and is vaporized 8 and aerosolized. It is also relevant how much is 9 off-gassed and might bypass the Cambridge filter 10 of the smoking and testing machine, but then is 11 free to be absorbed either directly into the 12 mouth or if it reforms particles which are 13 inhaled into the lung. It can also affect the 14 speed with which absorption occurs, which would 15 not be readily detectable by measuring the 16 nicotine in the blood, but would be expected to 17 have a pharmacological effect by increasing the 18 amount of nicotine delivered into the bloodstream 19 over a given amount of time. 20 These are all aspects of ammonia that 21 have been described in various tobacco company COURT REPORTING CONCEPTS, INC. Baltimore, Maryland Phone (410) 821-4888 Fax (410) 821-4889 1 documents, have been reviewed and assessed by the

U.S. Food and Drug Administration, and are 3 plausible from the perspective of pharmaceutical 4 development. 5 Q. Let me ask you about that, because I understand part of what you are saying, but not 7 all of it. 8 I think there is agreement among 9 everyone that by affecting the pH, nicotine can 10 affect -- excuse me -- ammonia can affect the 11 time course by which nicotine is absorbed from 12 smoke. Correct? 13 A. In the public health and scientific 14 community, I believe there is agreement. There 15 is agreement, I think, in tobacco industry 16 documents. Curiously there was not much 17 agreement about it in the official response of the tobacco industry to the Food and Drug 18 19 Administration rule on January 2nd or 3rd of 20 1996. So I guess they forgot about it at that 21 time. COURT REPORTING CONCEPTS, INC. Baltimore, Maryland Phone (410) 821-4888 Fax (410) 821-4889 171 1 Q. However, are you positive that the use of ammonia affects the overall bio availability of nicotine from a given cigarette? And by that, what I mean, it affects how much nicotine the 5 smoker ultimately inhales which then makes its 6 way into the bloodstream? 7 A. To the best of my knowledge, based on 8 the literature that I have reviewed, including 9 industry documents and conferring with other experts bio availability and drug delivery, yes. 10 Q. How does it do that? 11 A. I just listed, I would be happy to 12 13 repeat my response of a few minutes ago, because it does that, it can do it by many different 14 mechanisms, which are not mutually exclusive. 15 16 Q. Explain those to me. 17 A. It can influence the amount of nicotine that is extracted from the tobacco itself and 18 19 vaporized, because free nicotine has a lower 20 boiling point. 21 So it can literally help extract a COURT REPORTING CONCEPTS, INC. Baltimore, Maryland Phone (410) 821-4888 Fax (410) 821-4889 higher fraction of nicotine from the tobacco than 1 would otherwise be extracted. It can have a, in some ways more subtle effect on dosing that I 4 think is relevant to marketing by, in principle, 5 putting some of the nicotine into a gas phase 6 which would not be trapped by the Cambridge 7 filter, and, therefore, would not be reported to the cigarette smoker, but which could be absorbed 8 9 into the body of the cigarette smoker in at least 10 two ways. 11 One way being as the molecules coagulate 12 into particles and are inhaled into the lung; and 13 the other way being absorbed directly through the

lining of the mouth and the upper airways.

14

15 Another prominent effect is by 16 influencing the pH of the material that is being 17 brought into the smoker's body, it can speed the 18 process of absorption through membranes, especially those in the mouth and upper airways 19 20 and theoretically in the lung, although I think 21 most of us would agree that the percentage or the COURT REPORTING CONCEPTS, INC. Baltimore, Maryland Phone (410) 821-4888 Fax (410) 821-4889 173 amount of influence in the lung would be much 2. lower. 3 Q. Okay. Let me ask you next about the use -- you said that the incorporation of sugars 5 into the cigarette product interacts and affects the nicotine yield? 6 7 A. No. I said that it can -- I think in 8 principle almost any of these things can affect 9 yield of nicotine, but it can also be used as the basis to form chemicals such as acetaldehyde, 10 which, in turn, interact pharmacologically with 11 12 nicotine, so that the pharmacological effect on 13 the body is different. And, in essence, this is an indirect way 14 15 of producing a combination of drug or a drug 16 cocktail, if you will. Q. What different pharmacological effects 17 of nicotine are elicited by incorporating sugars 18 19 into cigarette products? 20 A. Well, the Philip Morris studies conducted by Victor DeNoble and Paul Neely and 2.1 COURT REPORTING CONCEPTS, INC. Baltimore, Maryland Phone (410) 821-4888 Fax (410) 821-4889 174 their colleagues show that various combinations of acetaldehyde and nicotine, some of the effects that would ordinarily be attributed to nicotine 3 4 could be enhanced by the addition of 5 acetaldehyde, such as the reinforcing effects of 6 nicotine, which is one of the mechanisms by which 7 addiction is produced. 8 Q. What do you mean by reinforcing effects? A. The effect that will cause the person, 9 10 although these studies were with the animals, 11 animal model, to continue to self-administer the 12 drug and to work harder for the drug. 13 Q. Does that mean that cigarettes that 14 incorporate certain sugars as additives are more 15 addictive than cigarettes that do not have those 16 sugars as additives? 17 A. It means that a technique has been used 18 that can potentially increase the addictive 19 potential of the product. 20 Q. Well, do you have an opinion as to 21 whether or not cigarettes that include sugars as COURT REPORTING CONCEPTS, INC. Baltimore, Maryland Phone (410) 821-4888 Fax (410) 821-4889 175 1 additives are more addictive than cigarettes that do not include sugars as additives?

A. I have to use the word "could" because 4 there are so many determinants of the 5 addictiveness. For example, a certain 6 combination might produce a cigarette that 7 produces enhanced pharmacological effects of 8 nicotine, but the sensory characteristics are so awful that nobody would or few people, or that 9 10 people would be discouraged from smoking them. 11 So it is the end product, the 12 addictiveness is a function of many different parameters of cigarette design. But, certainly, 13 14 the possibility of producing a drug cocktail has 15 the potential to make the cigarette more 16 addictive than it might otherwise have been. 17 Q. Let me ask you about the use of burn 18 accelerants to influence burn rate. What are 19 your opinions with respect to what the companies 20 have done utilizing burn accelerants that is 21 inappropriate? COURT REPORTING CONCEPTS, INC. Baltimore, Maryland Phone (410) 821-4888 Fax (410) 821-4889 176 1 A. This goes in part to the marketing of cigarettes that are advertised with lower 2 3 nicotine and tar yields. And to get the lower nicotine yield, the 5 easiest, or one easy ways would be to simply 6 reduce the nicotine content of the cigarette 7 itself. 8 The way that is achieved in part using 9 burn accelerants is to take advantage of the fact that the cigarette smoking machine takes only one 10 puff per minute; and, therefore, by increasing 11 the burn rate of the cigarette, more of the 12 13 nicotine from the cigarette literally goes up and 14 out the exhaust system of the building rather than out through the Cambridge filter. 15 When the cigarette smoker smokes the 16 17 cigarette, and the cigarette smoker will take a 18 puff averaging closer to two puffs per minute, 19 the exact number varies in the studies, the relative impact of the burn accelerant is less, 20 21 and that means the smoker inhales a larger COURT REPORTING CONCEPTS, INC. Baltimore, Maryland Phone (410) 821-4888 Fax (410) 821-4889 177 fraction of the nicotine that is contained in the cigarette. So it is a technique to beat the smoking machine, if you will, and give smokers more 5 nicotine than is implied by the advertisement. 6 Q. Although the relative impact might be 7 less in a smoker than for the FTC machine, 8 wouldn't a cigarette smoker ultimately inhale 9 less nicotine from a given cigarette, as a result 10 of the presence of burn accelerants, than he otherwise would? 11 12 A. Compared to what? 13 Q. If there were no burn accelerants 14 15 A. If there were no burn accelerants

But it is a hypothetical you raise. It is not a simple question. Q. No. I think it is a simple question. Let me try it again. By adding burn accelerants that cause a cigarette to burn faster, it means that a smoker inhales less tar and nicotine from any given cigarette than they would if the burn accelerants were not present, correct? A. It may or may not, depending on a lot of other variables, but the important thing is that the impact of the effect is that the individual cigarette smoker is less affected and is more likely to get a higher dosage of nicotine and tar than is implied by the FTC rating, which is based on one puff per minute and which allowed the cigarette to burn for 58 seconds before the next puff. Q. So is it your opinion that the cigarette manufacturers have used burn accelerants to intentionally trick or mislead the consumer as to COURT REPORTING CONCEPTS, INC. Baltimore, Maryland Phone (410) 821-4888 Fax (410) 821-4889 Typ the amount of nicotine that the consumer will obtain relative to the FTC measurement of nicotine? A. I believe that is one of the many tools that are employed to that end. Q. And your belief in that regard is based upon your review of documents from the manufacturers, correct? A. In part, as well as previously publicly available documents, such as the Colin Browne Monograph, Dietrich Hoffman's papers, I'm not sure if Rickert has written about it. Q. Can you identify for me the documents of the cigarette manufacturers that you are relying upon in that regard? A. Sure. They are documents that were included, that we discussed in previous depositions and trial, but I do not have them with me. Q. Let me ask you about the reintroduction of nicotine into reconstituted tobacco. COURT REPORTING CONCEPTS, INC. Baltimore, Maryland Phone (410) 821-4888 Fax (410) 821-4889	16 17 18 19 20 21	present, my opinion is that cigarettes would frequently extinguish and in some cases people would reignite them, and in those cases, they wouldn't and they may leave more nicotine and tar in the ashtray, which would probably be a good thing. COURT REPORTING CONCEPTS, INC. Baltimore, Maryland Phone (410) 821-4888 Fax (410) 821-4889
cigarette to burn faster, it means that cause a cigarette to burn faster, it means that a smoker inhales less tar and nicotine from any given cigarette than they would if the burn accelerants were not present, correct? A. It may or may not, depending on a lot of other variables, but the important thing is that the impact of the effect is that the individual cigarette smoker is less affected and is more likely to get a higher dosage of nicotine and tar than is implied by the FTC rating, which is based on one puff per minute and which allowed the cigarette to burn for 58 seconds before the next puff. Q. So is it your opinion that the cigarette manufacturers have used burn accelerants to intentionally trick or mislead the consumer as to COURT REPORTING CONCEPTS, INC. Baltimore, Maryland Phone (410) 821-4888 Fax (410) 821-4889 A. I believe that is one of the many tools that are employed to that end. Q. And your belief in that regard is based upon your review of documents from the manufacturers, correct? A. In part, as well as previously publicly available documents, such as the Colin Browne Monograph, Dietrich Hoffman's papers, I'm not sure if Rickert has written about it. Q. Can you identify for me the documents of the cigarette manufacturers that you are relying upon in that regard? A. Sure. They are documents that were included, that we discussed in previous depositions and trial, but I do not have them with me. Q. Let me ask you about the reintroduction of nicotine into reconstituted tobacco. COURT REPORTING CONCEPTS, INC. Baltimore, Maryland Phone (410) 821-4888 Fax (410) 821-4889	2	is not a simple question.
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A. It may or may not, depending on a lot of other variables, but the important thing is that the impact of the effect is that the individual cigarette smoker is less affected and is more likely to get a higher dosage of nicotine and tar than is implied by the FTC rating, which is based on one puff per minute and which allowed the cigarette to burn for 58 seconds before the next puff. Q. So is it your opinion that the cigarette manufacturers have used burn accelerants to intentionally trick or mislead the consumer as to COURT REPORTING CONCEPTS, INC. Baltimore, Maryland Phone (410) 821-4888 Fax (410) 821-4889 179 1 the amount of nicotine that the consumer will obtain relative to the FTC measurement of nicotine? A. I believe that is one of the many tools that are employed to that end. Q. And your belief in that regard is based upon your review of documents from the manufacturers, correct? A. In part, as well as previously publicly available documents, such as the Colin Browne Monograph, Dietrich Hoffman's papers, I'm not sure if Rickert has written about it. Q. Can you identify for me the documents of the cigarette manufacturers that you are relying upon in that regard? A. Sure. They are documents that were included, that we discussed in previous depositions and trial, but I do not have them with me. Q. Let me ask you about the reintroduction of nicotine into reconstituted tobacco. COURT REPORTING CONCEPTS, INC. Baltimore, Maryland Phone (410) 821-4888 Fax (410) 821-4889	7	inhales less tar and nicotine from any given
the impact of the effect is that the individual cigarette smoker is less affected and is more likely to get a higher dosage of nicotine and tar than is implied by the FTC rating, which is based on one puff per minute and which allowed the cigarette to burn for 58 seconds before the next puff. Q. So is it your opinion that the cigarette manufacturers have used burn accelerants to intentionally trick or mislead the consumer as to COURT REPORTING CONCEPTS, INC. Baltimore, Maryland Phone (410) 821-4888 Fax (410) 821-4889 179 the amount of nicotine that the consumer will obtain relative to the FTC measurement of nicotine? A. I believe that is one of the many tools that are employed to that end. Q. And your belief in that regard is based upon your review of documents from the manufacturers, correct? A. In part, as well as previously publicly available documents, such as the Colin Browne Monograph, Dietrich Hoffman's papers, I'm not sure if Rickert has written about it. Q. Can you identify for me the documents of the cigarette manufacturers that you are relying upon in that regard? A. Sure. They are documents that were included, that we discussed in previous depositions and trial, but I do not have them with me. Q. Let me ask you about the reintroduction of nicotine into reconstituted tobacco. COURT REPORTING CONCEPTS, INC. Baltimore, Maryland Phone (410) 821-4888 Fax (410) 821-4889	9	were not present, correct?
likely to get a higher dosage of nicotine and tar than is implied by the FTC rating, which is based on one puff per minute and which allowed the cigarette to burn for 58 seconds before the next puff. Q. So is it your opinion that the cigarette manufacturers have used burn accelerants to intentionally trick or mislead the consumer as to COURT REPORTING CONCEPTS, INC. Baltimore, Maryland Phone (410) 821-4888 Fax (410) 821-4889 T79 the amount of nicotine that the consumer will obtain relative to the FTC measurement of nicotine? A. I believe that is one of the many tools that are employed to that end. Q. And your belief in that regard is based upon your review of documents from the manufacturers, correct? A. In part, as well as previously publicly available documents, such as the Colin Browne Monograph, Dietrich Hoffman's papers, I'm not sure if Rickert has written about it. Q. Can you identify for me the documents of the cigarette manufacturers that you are relying upon in that regard? A. Sure. They are documents that were included, that we discussed in previous depositions and trial, but I do not have them with me. Q. Let me ask you about the reintroduction of nicotine into reconstituted tobacco. COURT REPORTING CONCEPTS, INC. Baltimore, Maryland Phone (410) 821-4888 Fax (410) 821-4889		the impact of the effect is that the individual
on one puff per minute and which allowed the cigarette to burn for 58 seconds before the next puff. Q. So is it your opinion that the cigarette manufacturers have used burn accelerants to intentionally trick or mislead the consumer as to COURT REPORTING CONCEPTS, INC. Baltimore, Maryland Phone (410) 821-4888 Fax (410) 821-4889 179 the amount of nicotine that the consumer will obtain relative to the FTC measurement of nicotine? A. I believe that is one of the many tools that are employed to that end. Q. And your belief in that regard is based upon your review of documents from the manufacturers, correct? A. In part, as well as previously publicly available documents, such as the Colin Browne Monograph, Dietrich Hoffman's papers, I'm not sure if Rickert has written about it. Q. Can you identify for me the documents of the cigarette manufacturers that you are relying upon in that regard? A. Sure. They are documents that were included, that we discussed in previous depositions and trial, but I do not have them with me. Q. Let me ask you about the reintroduction of nicotine into reconstituted tobacco. COURT REPORTING CONCEPTS, INC. Baltimore, Maryland Phone (410) 821-4888 Fax (410) 821-4889	14	likely to get a higher dosage of nicotine and tar
Q. So is it your opinion that the cigarette manufacturers have used burn accelerants to intentionally trick or mislead the consumer as to COURT REPORTING CONCEPTS, INC. Baltimore, Maryland Phone (410) 821-4888 Fax (410) 821-4889 179 the amount of nicotine that the consumer will obtain relative to the FTC measurement of nicotine? A. I believe that is one of the many tools that are employed to that end. Q. And your belief in that regard is based upon your review of documents from the manufacturers, correct? A. In part, as well as previously publicly available documents, such as the Colin Browne Monograph, Dietrich Hoffman's papers, I'm not sure if Rickert has written about it. Q. Can you identify for me the documents of the cigarette manufacturers that you are relying upon in that regard? A. Sure. They are documents that were included, that we discussed in previous depositions and trial, but I do not have them with me. Q. Let me ask you about the reintroduction of nicotine into reconstituted tobacco. COURT REPORTING CONCEPTS, INC. Baltimore, Maryland Phone (410) 821-4888 Fax (410) 821-4889	16	on one puff per minute and which allowed the
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1 A. Can we take a break for a few minutes? 2 MR. FURR: If you need a break, we can. 3 (Break.)	11 12 13 14 15 16 17 18 19 20	Monograph, Dietrich Hoffman's papers, I'm not sure if Rickert has written about it. Q. Can you identify for me the documents of the cigarette manufacturers that you are relying upon in that regard? A. Sure. They are documents that were included, that we discussed in previous depositions and trial, but I do not have them with me. Q. Let me ask you about the reintroduction of nicotine into reconstituted tobacco. COURT REPORTING CONCEPTS, INC. Baltimore, Maryland Phone (410) 821-4888 Fax (410) 821-4889

Q. Dr. Henningfield, let me ask you some 5 questions now about reconstituted tobacco. 6 The process through which reconstituted 7 tobacco is used results in the nicotine first being extracted from the tobacco, correct? 8 9 A. Yes, not necessarily all of it, but some of it at least. 10 11 Q. And some of what is extracted is 12 reintroduced, correct? A. Whether or not it is the same nicotine 13 14 that is being taken out and put back, I think the 15 important thing to me is that nicotine from some source is put back. I doubt that they carefully, 16 17 just take what was taken out and put it back in. 18 Q. Well, isn't it true that after the 19 nicotine is reintroduced, that the nicotine level in the reconstituted tobacco is less than the 20 21 nicotine level of the same tobacco before the COURT REPORTING CONCEPTS, INC. Baltimore, Maryland Phone (410) 821-4888 Fax (410) 821-4889 181 reconstitution process? A. I don't know if that's the case or not. One of the problems is still not having good 3 access to brand-specific aspects of cigarette manufacturing that I think would be helpful to me 5 and others in the public health field. But I 6 7 think as a general premise, that is accepted. 8 Q. Reconstituted tobacco of a given type 9 has a lower nicotine level than the same type of 10 tobacco does prior to reconstitution. 11 A. Is that a fact or --Q. I'm asking you: Isn't that correct? 12 A. It depends on how much nicotine they put 13 14 back into it. 15 Q. As reconstituted tobacco is utilized in 16 modern cigarette products? 17 A. In general, I believe that it is lower; 18 but, again, the manufacturers are free to vary it 19 and on a brand-specific basis, I wish I knew more 20 of what they did. 21 Q. Let me ask you some questions about COURT REPORTING CONCEPTS, INC. Baltimore, Maryland Phone (410) 821-4888 Fax (410) 821-4889 1 documents. Where do you obtain -- where and from whom do you obtain the tobacco industry documents that you reviewed? 4 A. For the purposes of the Washington 5 trials and depositions that have had specific 6 documents listed and presented, some of the 7 documents are the same as those that the FDA had 8 uncovered in its investigation; and some of the 9 documents were those that I had not seen when I was working with FDA, but were presented to me by 10 11 various plaintiffs attorneys; and I obtained 12 other documents from other colleagues in the 13 field; but the documents that I would be relying 14 upon for this case, to the best of my knowledge, 15 would be restricted to those that have already 16 been provided to me, and listed in prior

```
17
      proceedings.
           Q. How many total hours do you believe that
18
19
      you have spent reviewing tobacco industry
20
      documents?
           A. Hundreds and hundreds. I'm betting it
21
               COURT REPORTING CONCEPTS, INC.
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                                                     183
      is more than a thousand hours. Again, this
 1
       includes my work for the Food and Drug
      Administration and for when I was a member of the
      National Institutes of Health and assisting the
 5
      U.S. Congress in their investigations and the
 6
      Food and Drug Administration, so cumulatively,
 7
      gosh, I'm going to guess that it was more than a
 8
      thousand hours, probably less than 2,000 hours.
9
           Q. What percentage of that time was spent
10
      reviewing documents for plaintiffs attorneys in
11
      cases against the cigarette manufacturers?
12
           A. I would guess more than 10 percent, less
13
      than 50 percent, answering to the best of my
14
      ability.
15
                I just haven't plotted it that way or
16
      kept track of it that way.
17
           Q. Have you ever gone to the Minnesota
18
      document repository to review documents?
19
           A. Not physically.
            Q. Have you reviewed documents on line?
20
               Yes.
21
           Α.
               COURT REPORTING CONCEPTS, INC.
                     Baltimore, Maryland
          Phone (410) 821-4888 Fax (410) 821-4889
                                                     184
            Q. What documents did you look at?
 1
           A. The Philip Morris, the R.J. Reynolds. I
      believe those are the only two that I have
      personally accessed. What is more typical is one
 5
      of my colleagues, who is more skillful at
 6
      negotiating these sites, will find something for
 7
      me or search something for me, but so I think in
 8
      my personal actual on-line, I have gone to the
 9
      Philip Morris, gone to the R.J. Reynolds. I'm
10
      pretty sure I have gone to Brown & Williamson,
11
      but I'm not absolutely positive, just because I
12
      might have initiated it or had the program blow
13
      up or had a problem and call one of my colleagues
14
      that was better at negotiating the site.
15
           Q. Help me understand something, because
16
      through our discussion today it has become less
17
      than clear to me. Do you currently intend to
18
      review additional tobacco industry documents
19
      prior to testifying at trial?
20
           A. For the trial, I expect to be relying
21
       exclusively on the documents that have been
                COURT REPORTING CONCEPTS, INC.
                      Baltimore, Maryland
          Phone (410) 821-4888 Fax (410) 821-4889
                                                     185
 1
      previously listed and described and discussed in
 2
      depositions and trial unless plaintiffs and/or
 3
      defendants show me a document that they believe
      is critical and would influence my opinion.
```

On the other hand, I expect that I will 6 be, as a part of what I just do as a professional 7 in this field, I will be seeing many, many more 8 documents, but those will not be documents that I will be referring to for the purposes of the 9 10 trial. Q. Have you had discussions with plaintiffs 11 12 counsel in this case about reviewing additional 13 documents before trial? 14 A. The only discussion is that what I have 15 told Ness Motley attorneys is that I have seen many documents since those that were listed for 16 17 the attorneys general cases, and since those that 18 were listed and used for the Washington State 19 trial, but I have not seen anything that has 20 changed my opinions and nothing that I felt was 21 necessary to rely upon for trial. COURT REPORTING CONCEPTS, INC. Baltimore, Maryland Phone (410) 821-4888 Fax (410) 821-4889 Q. Let's go back to your disclosure. Under 1 subject matter of anticipated testimony, the 3 second sentence reads: Dr. Henningfield will testify regarding 4 5 the defendants' research and the impact on public 6 health of the industry suppression of relevant 7 data and the industry's denials concerning the 8 health consequences of smoking, correct? 9 A. Correct. 10 Q. What research by defendants in this case 11 has been suppressed in a manner that has affected 12 the public's health in your opinion? 13 A. A lot. Having said that, let me give you a couple of examples. 14 15 Q. I want you to be as comprehensive, as 16 you can be. A. A prominent example that I'm intimately 17 18 familiar with is the suppression of the work of 19 Dr. Victor DeNoble and Paul Neely and their 20 colleagues on the nicotine self-administration 21 model that they developed at Philip Morris. COURT REPORTING CONCEPTS, INC. Baltimore, Maryland Phone (410) 821-4888 Fax (410) 821-4889 187 1 That was, I believe, of major consequence, because such a rat model would have been important in furthering our understanding of the addiction process and developing treatments, 5 and that is evidenced by the rapid acceleration 6 of knowledge that has occurred since 7 Dr. Corrigall and his colleagues, 8 C-O-R-R-I-G-A-L-L, Dr. William Corrigall at the 9 Addiction Research Foundation developed and 10 published a model and did the kind of replication research that enabled the model to be useful. 11 12 That is a specific example of deliberate 13 suppression that I believe this had a significant 14 impact on the facts. 15 Q. Before we go to the next example, 16 explain to me how what you believe to have been 17 suppression of research by Dr. DeNoble and Paul

Neely has impacted public health. 19 A. The rat model of drug self-administration is an important model and is 20 21 used in pharmaceutical companies, and is used by COURT REPORTING CONCEPTS, INC. Baltimore, Maryland Phone (410) 821-4888 Fax (410) 821-4889 public health-supported researchers by federal 1 agencies to explore the control of behavior and to develop medicines. 3 For example, recently, there is work 5 that is accelerating on the development of 6 possible vaccines that use rat models of nicotine 7 withdrawal and increasing with 8 self-administration. 9 These are avenues of research that are 10 leading to treatments; and, in my opinion, the 11 field and cigarette smokers have lost someplace 12 in the area of six or seven years of time due to 13 the suppression of this research. 14 Q. Let me ask you about that. You said 15 that Dr. Corrigall at the Addiction Research 16 Foundation has published or created a model 17 similar to that which you believe was suppressed 18 from the work of Dr. DeNoble and Paul Neely, 19 correct? A. That which I know was suppressed by 20 DeNoble and Neely. 2.1 COURT REPORTING CONCEPTS, INC. Baltimore, Maryland Phone (410) 821-4888 Fax (410) 821-4889 189 Q. And how has Dr. Corrigall's model improved public health? A. If you look at the literature like I do, you see that there has been a, what I think could be described as an explosion of research using 5 rat self-administration models to better 6 7 understand the molecular genetics of nicotine 8 addiction, to test new medicines, to screen 9 medicines, to develop a better understanding of the interaction between nicotine tolerance and 10 11 self-administration. 12 It is being used in federally supported 13 laboratories at this time, rat models which Corrigall's work showed to be relevant, are being 14 15 used in the development of, have been used in the 16 development of a vaccine which has recently been either ready for human testing or will soon be 17 ready for human testing. These are major areas 18 19 of potential means to more effectively prevent 20 and treat tobacco dependence. 21 Q. So I want to make sure I understand your COURT REPORTING CONCEPTS, INC. Baltimore, Maryland Phone (410) 821-4888 Fax (410) 821-4889 testimony. Although it is potentially going to 1 2 be helpful in the future, at least so far, there 3 has been no developments through the use of Dr. Corrigall's model that have been of assistance in treating nicotine dependence or

addiction; is that correct? A. The new medicines are not available, but 8 the way you have stated it is a broad 9 overstatement. Q. What did I overstate? 10 11 A. I believe you say it has not been useful. Maybe you can restate it. 12 Q. Although it is potentially going to be 13 helpful in the future, at least so far there have 14 15 been no developments through the use of Dr. Corrigall's model that have been of 16 17 assistance in treating nicotine dependsence or addiction; is that correct? 18 19 A. No. It is not correct. I think at a general level, in the field of medicine, when you 20 21 have an animal model, it helps physicians to COURT REPORTING CONCEPTS, INC. Baltimore, Maryland Phone (410) 821-4888 Fax (410) 821-4889 Baltimore, Maryland Phone (410) 821-4888 Fax (410) 821-4889 226 A. The smooth Camel campaign that we -that I mentioned earlier. Q. We have talked about that one. Do you 3 have another example? A. No. Q. All right. Do you have any other 6 7 opinions or can you identify for me any other 8 examples of what you are talking about or rely 9 upon for your opinion that the industry has 10 conducted research but suppressed it and thereby negatively impacting the public health? 11 A. An area of research that R.J. Reynolds 13 and Philip Morris engaged in was on nicotine 14 analogs, which is chemicals other than nicotine 15 or related to nicotine that may have some similar 16 properties. 17 It is possible that in their drug 18 discovery and evaluation process, that they have 19 discovered chemical entities that could be useful 20 in the treatment of tobacco dependence and, in 21 fact, the possibility is not completely COURT REPORTING CONCEPTS, INC. Baltimore, Maryland Phone (410) 821-4888 Fax (410) 821-4889 227 1 hypothetical, as we know now that R.J. Reynolds has spun off a drug company, I don't know what Philip Morris has done that may be useful to 4 public health, but I know that they had a 5 nicotine analog program. This is something I would be interested 6 7 in, because I'm interested in medicines to more 8 effectively treat tobacco dependence. So this is 9 an area of research where it would be useful to 10 have more information. 11 Q. Do you believe that R.J. Reynolds or 12 Philip Morris has discovered a nicotine analog 13 that would be useful in treating nicotine 14 dependence or addiction? 15 A. I think it is plausible. 16 Q. I'm asking you what beliefs you hold

17 today. Do you think that that has occurred? 18 A. Whether it ultimately gets to the market is a function of a lot of things, but on the 19 20 basis of information that R.J. Reynolds is now presenting on some analogs, publicly, I think it 21 COURT REPORTING CONCEPTS, INC. Baltimore, Maryland Phone (410) 821-4888 Fax (410) 821-4889 228 is plausible that they have analogs that could be 1 useful to treat tobacco dependence. I don't know that for a fact, that's, I guess, the best way I 3 can say it. 5 Q. Can you identify for me any other 6 research that you believe that the industry has 7 conducted but suppressed, that had it released, 8 it would have impacted public health? 9 A. Not specific areas. 10 MR. GRUENLOH: Take a quick bathroom 11 break? 12 MR. FURR: Sure. 13 (Break.) 14 Q. Okay, Dr. Henningfield, I want to 15 continue with the second sentence of your disclosure, and ask you what opinions you are 16 17 prepared to testify to regarding what is described as the industry's denials concerning 18 the health consequences of smoking. 19 20 A. The area that I am most familiar with 21 has to do with the addiction area. This was an COURT REPORTING CONCEPTS, INC. Baltimore, Maryland Phone (410) 821-4888 Fax (410) 821-4889 area where, in my opinion, had the industry been fully forthcoming with its data, the 1964 Surgeon General's Report would have labeled nicotine addicting instead of habituating. 5 And in the early 1980's when the 6 National Institute on Drug Abuse recommended that 7 cigarettes be labeled as addicting the industry 8 fought that and prevented the label. 9 In 1988, when the nicotine addiction 10 Surgeon General's Report came out, and led to a 11 reasonable expectation of those in the U.S. 12 Public Health Service, including the Surgeon 13 General, that cigarettes would be labeled as 14 addicting, the industry successfully opposed the 15 label. 16 And I believe this has had enormous 17 consequences for public health. 18 Q. Okay. Let's take those one at a time. 19 What did the industry know, prior to 1964, that 20 had it been divulged to the Surgeon General, 21 would have resulted in the '64 Surgeon General's COURT REPORTING CONCEPTS, INC. Baltimore, Maryland Phone (410) 821-4888 Fax (410) 821-4889 1 Report labeling nicotine as addicting instead of 2 habituating? 3 A. In that report, nicotine, as was described in the report, was clearly in a gray

area, where judgment calls were made. It was 6 recognized to be an important pharmacological 7 factor in smoking, that met the criteria for what 8 was then called habituating. 9 It was not put into the addicting 10 category. The tobacco industry, in my opinion, had 11 12 they come forth at that time and said what we now see as evident in their documents, that 13 cigarettes without nicotine would not be --14 cigarettes would not maintain the industry, that 15 that would have kept the balance, and the Surgeon 17 General would have concluded that cigarettes are 18 addicting. 19 Q. What documents are you referring to with 20 respect to the industry's documents in that 21 response? COURT REPORTING CONCEPTS, INC. Baltimore, Maryland Phone (410) 821-4888 Fax (410) 821-4889 231 A. Some of them are Claude Teague's statements and conclusions, and I do not recall 3 the names of other individuals offhand, but there are several documents that I have seen from 4 5 several companies, that I would be happy to retrieve, that show that the companies themselves 6 7 had come to conclude that nicotine had 8 pharmacological effects that were critical in 9 tobacco dependence, that addiction was an 10 appropriate label, and this did not come to 11 light, to the best of my knowledge, then. It 12 came to light in recent years as a result of the 13 litigation process. Q. And you believe that those ideas are 14 15 expressed in industry documents that you can 16 identify and provide to Mr. Gruenloh? 17 A. Yes. 18 (Whereupon, Henningfield Deposition 19 Exhibit No. 9, excerpt from 1964 Surgeon 20 General's Report, marked.) 21 Q. Dr. Henningfield, let me hand to you COURT REPORTING CONCEPTS, INC. Baltimore, Maryland Phone (410) 821-4888 Fax (410) 821-4889 232 what we have marked as your Deposition Exhibit 1 No. 9 and have you examine this and verify for us that I have marked as Exhibit 9 selected pages from the 1964 Surgeon General's Report. 5 Do you have an extra one? 6 MS. MOORE: Yes. 7 MR. GRUENLOH: Thanks. 8 A. Yes. 9 Q. Let me ask you to turn to page 351. 10 A. Okay. Q. On that page, the 1964 Surgeon General's 11 Report, listed the definitions and the 12 characteristics of drug addiction versus drug 13 14 habituation, that the Surgeon General was then 15 employing, correct? 16 A. Correct. 17 Q. Drug addiction was defined as a state of

periodic or chronic intoxication produced by the 19 repeated consumption of a drug, natural or synthetic, correct? 20 21 A. Correct. COURT REPORTING CONCEPTS, INC. Baltimore, Maryland Phone (410) 821-4888 Fax (410) 821-4889 Q. If that were the definition of addiction 1 by which cigarettes were tested today, with everything that we know today, cigarettes would 3 not be designated as addictive, would they? 5 A. It depends how heavily they weighted 6 that factor. In this Surgeon General's Report, as the record shows, there were opinions 7 8 developed by a committee. It was not as simple a 9 checkoff process as this table might imply. 10 And I believe that, had the industry 11 come forward and said nicotine is addicting, and 12 people won't smoke cigarettes without it, because 13 it is so critical, that they would have interpreted, made the interpretation that 14 15 addiction was the appropriate word in the same 16 way that various committees concluded that 17 cocaine was addicting, depending upon how they 18 evaluated the data at that time. 19 Q. Are cigarettes intoxicating? A. They can, but in general, cigarette 20 21 smokers do not become intoxicated and that is COURT REPORTING CONCEPTS, INC. Baltimore, Maryland Phone (410) 821-4888 Fax (410) 821-4889 234 unusual. Q. If a test for whether or not a drug is addicting, is whether or not the drug produces a state of periodic or chronic intoxication produced by the repeated consumption of a drug, 5 nicotine and cigarettes do not meet that 6 definition, do they? 7 8 A. If that is the sole or the major 9 criterion, then cigarettes do not. Q. And there is nothing in the industry's 10 documents suggesting that, in fact, nicotine or 11 12 cigarettes do produce periodic or chronic 13 intoxication, is there? 14 A. No, not that I am aware of. 15 Q. The Surgeon General also listed certain 16 characteristics of drug addiction on page 351, 17 correct? 18 A. Correct. 19 Q. The Surgeon General identified one 20 characteristic as an overpowering desire or need, 21 compulsion, to continue taking the drug and COURT REPORTING CONCEPTS, INC. Baltimore, Maryland Phone (410) 821-4888 Fax (410) 821-4889 235 obtain it by any means, correct? 1 2 A. Correct. 3 Q. Cigarette smokers are not so compelled to smoke that they will obtain the drug by any means, are they?

A. I think if you look at the evaluations 7 of drugs by those criteria, by the committee that 8 formulated the criteria, you can either interpret 9 that no drug meets the criteria, or that there are drugs such as morphine and alcohol and 10 11 nicotine in sufficient cases do produce those effects, to label them as addicting, otherwise no 12 13 drug would be considered addicting. Q. Do cigarette smokers commit crimes 14 15 against people and property in order to obtain their cigarettes in the same way that heroin 16 17 addicts do? 18 A. There have been instances when that has 19 occurred, when they have been unable to get cigarettes and, in fact, it was the tobacco 20 21 industry itself that threatened that there would COURT REPORTING CONCEPTS, INC. Baltimore, Maryland Phone (410) 821-4888 Fax (410) 821-4889 236 be massive smuggling and associated crime if efforts were made to take the nicotine out of cigarettes. 4 That was tobacco industry testimony 5 before Congress. 6 Q. Have you ever heard of a case where a cigarette smoker physically assaults someone or 7 robs a store in order to obtain their cigarettes? 8 9 A. Yes. 10 Q. Tell me about that. 11 A. I have press accounts that I would be 12 happy to pull out for you, and also in Italy in, I believe, 1992, when cigarette manufacturers 13 were on strike, there was crime that was reported 15 in the press, specifically, having to do with 16 obtaining cigarettes. In the United States, since cigarettes 17 18 are so widely available and so easily available, 19 we haven't seen that as much. 20 Q. Are cigarette smokers willing to steal 21 and assault family members, friends and strangers COURT REPORTING CONCEPTS, INC. Baltimore, Maryland Phone (410) 821-4888 Fax (410) 821-4889 237 1 on the street in order to obtain cigarettes and 2. money for cigarettes in the same way that people 3 addicted to cocaine or heroin are? A. It is a meaningless question. You don't 5 have a situation where people would have to, so 6 you don't know. 7 Q. Do you think that if deprived of their 8 cigarettes, there is a likelihood that cigarette 9 smokers would begin assaulting and robbing 10 others, in efforts to obtain cigarettes? 11 A. Well, that was part of the scenario that 12 the tobacco industry raised in 19, I believe, 1996 and 1997, when it was opposing the FDA's 13 attempted jurisdiction over tobacco, and I 14 15 concurred with the tobacco industry that, in 16 fact, people could under some instances go to 17 great lengths to obtain tobacco. 18 Q. How many crimes are committed in the

19 United States every year by cigarette smokers 20 that have been deprived of their nicotine who commit the crimes in an effort to obtain the 2.1 COURT REPORTING CONCEPTS, INC. Baltimore, Maryland Phone (410) 821-4888 Fax (410) 821-4889 238 nicotine? A. I don't know, but, again, it is almost a meaningless question, when cigarettes are relatively cheap and extremely convenient. Q. Now, are there industry documents that you have seen that the industry could have 6 7 provided to the Surgeon General in 1964, in which 8 the industry could have warned the Surgeon General of these dangerous and violent tendencies 10 of cigarette smokers if deprived of their 11 nicotine that might have made a difference in whether or not smoking was described as addictive 13 in the '64 report? A. For the record, you are the one that has 14 15 talked about dangerous and violent tendencies, that is not something that I have stated. 17 Q. Can you answer the question? 18 A. I want to make sure that you don't put 19 words in my mouth, because that's not something I 20 have stated. Q. I may have misunderstood you. Go ahead 21 COURT REPORTING CONCEPTS, INC. Baltimore, Maryland Phone (410) 821-4888 Fax (410) 821-4889 239 and tell me about the documents that the industry 1 had but did not share that contained information pertaining to the potentially dangerous and violent tendencies of cigarette smokers deprived 5 of their nicotine. A. That's not my testimony, and that's not 7 what I have documents on. 8 Q. All right. Let's walk through these one 9 at a time. Your testimony is that the industry 10 has information that had it shared with the Surgeon General in 1964, would have resulted in 11 12 cigarettes being identified as addicting, not 13 habituating? 14 A. Correct. 15 Q. What I am doing is walking through the 16 components of the definition test for addiction that the Surgeon General used then and asking you 17 18 to identify for me the information that the 19 industry had but did not share. You understand 20 what we are doing, don't you? 21 A. Yes. COURT REPORTING CONCEPTS, INC. Baltimore, Maryland Phone (410) 821-4888 Fax (410) 821-4889 240 Q. Okay. I don't know what specific studies the 3 industry conducted. I know what their conclusions were, and if the industry had data to 5 support those conclusions, they should have come forward.

If they drew those conclusions without 8 having data, they should have come forth and 9 said, look, we think this stuff is appropriately 10 labeled addicting, maybe your definition doesn't match. They didn't. I don't know what data they 11 12 had. 13 But I know they were conducting 14 research, some of which we have seen, that 15 includes project Hipple and other lines of 16 research. I don't know what other research they had, but they came to some very strong 17 18 conclusions about the role of nicotine that were stronger than the Surgeon General's conclusions. 19 20 Q. Let me see if I understand this, is it 21 your testimony that if the industry had shared COURT REPORTING CONCEPTS, INC. Baltimore, Maryland Phone (410) 821-4888 Fax (410) 821-4889 with the Attorney General in 1964 their conclusions about the role that nicotine plays in smoking, that the Surgeon General would have used a different definition of addiction in 1964? 5 A. I think the Surgeon General would have 6 come to a different conclusion. They may have 7 interpreted the data differently. 8 And, again, when you are looking at 9 definitions like this, it is not a simple checklist, but you bring together a group of 10 11 experts, you look at all the available data. 12 Q. Let me ask you to look at the third 13 criteria that the Surgeon General, I should say the third characteristic of drug addiction that 14 the Surgeon General described in 1964, and that 15 is a psychic, psychological and generally a 16 17 physical dependence on the effects of the drug, 18 correct? A. Correct. 19 20 Q. Now, what information did the cigarette 21 manufacturers have available to them in 1964 that COURT REPORTING CONCEPTS, INC. Baltimore, Maryland Phone (410) 821-4888 Fax (410) 821-4889 demonstrated that nicotine produces a psychic or 2. physical dependence on the effects of the drug? A. It is clear from their documentation 3 that they understood that the pharmacological 5 actions of nicotine on the body and the nervous 6 system and hormonal system that produced effects 7 ranging from stimulization to tranquilization and 8 these were psychic and psychological effects, 9 were important if not critical in the use of 10 tobacco, and this was part of the basis, for 11 example, for the project Hipple work that was 12 being done. I think they understood that very 13 clearly. Q. Can you identify for me the specific 14 15 documents you are relying on for this testimony? 16 A. I can get them for you. They were 17 discussed in some depositions and at trial 18 before. 19 Q. All right. With respect to information

20 that the industry may have had regarding the 21 physical dependence that nicotine produces on COURT REPORTING CONCEPTS, INC. Baltimore, Maryland Phone (410) 821-4888 Fax (410) 821-4889 243 smokers, what information did the industry have that the Surgeon General did not have? A. I don't know what specific information they had. Again, I have the basis of their 4 5 conclusions, and glimpses of their research 6 programs. 7 Again, you are asking me a hypothetical, 8 what they had when they were not forthcoming, yet 9 their leaders came to very strong conclusions 10 regarding nicotine. I don't know what all they 11 had. 12 Q. I didn't ask you a hypothetical. As I 13 understand your testimony, it is that the industry was in possession of information that 15 had it shared with the Surgeon General in 1964, the Surgeon General would have reached a 16 17 different conclusion, correct? A. Correct. 18 19 Q. I'm asking you to identify that 20 information for me, with respect to physical 21 dependence. COURT REPORTING CONCEPTS, INC. Baltimore, Maryland Phone (410) 821-4888 Fax (410) 821-4889 244 A. I believe that if Claude Teague and 1 others had come forward and said nicotine is addicting, that that would have opened up that line of investigation by the Surgeon General and had the industry then shared everything that went 5 into his conclusions, and those of other leaders in the tobacco industry, that the committee would have concluded, as the industry had, that Я 9 nicotine was appropriately categorized as 10 addicting. I don't know what all research they had conducted. I don't know what all data they 11 had. They certainly, by that point, had lots of 12 market data, because they had been marketing 13 brands of cigarettes, and they knew how they had 15 to manufacture them to maintain their market and to keep smokers hooked. 16 17 Q. Let me ask you this question: I want you to assume that I have asked Dr. Benowitz whether 18 19 or not cigarettes are addicting using the 20 definition of drug addiction found in the '64 21 Surgeon General's Report, and he said no. Would COURT REPORTING CONCEPTS, INC. Baltimore, Maryland Phone (410) 821-4888 Fax (410) 821-4889 you agree with Dr. Benowitz if, in fact, that is 1 what he has testified to? A. If you take a narrow view of this 4 definition, as we have, as I have already agreed, 5 cigarettes, for example, do not typically produce chronic intoxication. So in the very narrow sense of that

8 definition, I would concur that they do not meet that criterion, and if that was Dr. Benowitz's 9 10 conclusion, we would both be concurring. 11 My point is that the industry itself had come to a different conclusion as to the 12 13 appropriate categorization of nicotine, and if 14 they had information that led them to that 15 conclusion, they should have been fully 16 forthcoming to the Advisory Committee to the 17 Surgeon General and laid out everything that they 18 had. 19 And I don't know for certain that the 20 committee then would have labeled nicotine addicting, and we'll never know because the 21 COURT REPORTING CONCEPTS, INC. Baltimore, Maryland Phone (410) 821-4888 Fax (410) 821-4889 246 cigarette industry did not come forward. Q. You would agree with me that it is speculative as to whether or not the committee would have labeled nicotine as addicting in 1964, 5 if the industry had provided to the committee the 6 information that you believe it had in its 7 possession. 8 A. What I would say is, as I have testified before, that it is plausible that they would have 9 regarded nicotine as addicting, but we'll never 10 know, because the industry didn't come forward 11 12 with what they concluded or what they know. 13 MR. GRUENLOH: I guess we're off the 14 record. (Discussion off the record.) 15 Q. Dr. Henningfield, let's go forward in 17 time to 1988. 18 A. Okay. 19 Q. 1988 Surgeon General's Report was the first report in which the Surgeon General labeled 20 cigarette smoking as an addiction; is that 21 COURT REPORTING CONCEPTS, INC. Baltimore, Maryland Phone (410) 821-4888 Fax (410) 821-4889 2.47 correct? A. It was the main report. In the 1986 3 report the Surgeon General came to that conclusion with respect to smokeless tobacco, and 4 5 an implication was that the conclusion applied to 6 cigarettes. But it was clear to all of us that a 7 full investigation needed to be done for 8 cigarettes, so that went into what became the 9 1988 Surgeon General's Report. 10 Q. Didn't the Surgeon General's 1986 report 11 address environmental cigarette smoke? 12 A. There were two reports that year, and 13 one was an advisory committee, the Surgeon 14 General under the leadership of the National Cancer Institute, which focused on smokeless 15 16 tobacco. 17 Q. I want to make sure that I have a clear 18 answer to the question I asked though, and that 19 is the following: 20 1988 was the first Surgeon General's

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21
      Report in which smoking was described as an
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      addictive behavior, correct?
            A. Again, if you look at the 1986 report,
       it is discussed, and it is a reasonable
      inference, and that was the basis, this wasn't a
 5
      trivial event, that was the basis for the Surgeon
      General requesting a full investigation of
 6
 7
      cigarettes, and the 1988 report was then the
      major statement that was specific to cigarettes.
 8
 9
                I was involved in both reports, so I
10
      understand the process, and it is a distinction
11
      that may not be evident or important to you, but
12
      it is one that is true, and I would be happy to
13
      walk through the '86 report with you, and if you
      would like to understand what I am saying, the
15
      1988 report, I think it is fair to say, it is the
      landmark report that should have left no doubt
16
17
      that nicotine in cigarettes was clearly
      addictive.
19
            Q. Now, in 1988, the Surgeon General
2.0
      defined nicotine, excuse me, defined addiction
21
      through the development of two sets of criteria,
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                     Baltimore, Maryland
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                                 Fax (410) 821-4889
                                                     249
      those being the primary criteria and the
 1
      secondary criteria, correct?
 2.
 3
           A. Correct.
           Q. In 1988, the Surgeon General identified
      three primary criteria for addiction; is that
 5
      correct?
 7
           A. Correct.
            Q. And those criteria were whether or not a
 8
9
      substance was used compulsively, correct, that
10
      was one of them?
11
           A. Correct.
12
           Q. The second criterion was whether or not
13
      a substance was psycho active, correct?
14
           A. Correct, psycho active reinforcing
15
      effects.
16
           Q. And the third criterion was whether or
17
      not the use of the substance was reinforcing,
18
      correct?
19
           A. Correct.
2.0
            Q. Now, the fact that nicotine and
21
       cigarettes are sometimes smoked compulsively or
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      psychoactively and can be reinforcing, all of
 1
      those things were known in 1964, by the Surgeon
      General; is that correct?
           A. They were known, and in making a
 5
      conclusion -- and I'm familiar with the process
 6
      that was used to differentiate drugs into the
 7
      habituating and addicting category at the time,
      and which Dr. Seevers participated in at the
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9 World Health Organization, judgment calls were 10 made based on the relative weight of the 11 evidence, and the confidence in the evidence. 12 For example, you could say at the '64 13 Surgeon General's Report, the committee had the 14 benefit of Lennox Johnston's 1942 study with intravenous nicotine and the committee referred 15 16 to it, but they also discounted it, because it was a single study that hadn't been replicated. 17 18 So you can say that they had this 19 information, but they were a long way from having 20 the knowledge in 1964 that was available in 1988, 21 or, frankly, that was available in 1980, when the COURT REPORTING CONCEPTS, INC. Baltimore, Maryland Phone (410) 821-4888 Fax (410) 821-4889 251 American Psychiatric Association concluded that 1 tobacco dependence was a legitimate category, as was morphine dependence, for example. Q. Let me ask it this way: In 1964, the committee that produced the Surgeon General's 5 Report recognized that nicotine was psychoactive, 7 correct? 8 A. Correct. 9 Q. In 1964, the committee that produced the report recognized that the use of nicotine 10 through smoking cigarettes was reinforcing, 11 12 correct? A. The data then were indirect, and the 13 14 term they used was social behavior reinforced by 15 the pharmacological actions of nicotine. So they used that word in their summary 16 17 in that Surgeon General's Report. They, frankly, had little specific data 18 19 on the reinforcing actions of nicotine at that 20 time and, in fact, the first animal, published animal study or presented animal study was by the 21 COURT REPORTING CONCEPTS, INC. Baltimore, Maryland Phone (410) 821-4888 Fax (410) 821-4889 252 Inoki, et al., I-N-O-K-I, researchers in Michigan, in, I believe, 1976, presented at the Committee on Drug Dependence. 4 Q. In 1964, the committee on the Surgeon 5 General's Report also knew that the habit of 6 smoking became compulsive in some nature, 7 correct? 8 A. Correct. Q. Despite that knowledge, in 1964, the 9 10 Surgeon General chose to label cigarette smoking 11 as habituating as opposed to addicting, correct? 12 A. The advisory committee came to that 13 conclusion, based on the data they had and the 14 testimony that they had. 15 Q. Now, if, in 1964, the Surgeon General 16 had utilized the same three primary criteria that 17 were utilized in evaluating nicotine in the 1988 18 report, in all likelihood nicotine would have 19 been labeled as addicting in 1964. Would you 20 agree with that? 21 A. It is really speculative. So many

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253 things are different, in part, because the criteria that evolved from the World Health Organization from 1964 on, abolished the distinction between habituating and addicting 5 drugs and replaced it with the technical term 6 used by the Surgeon General's committee in 1988, 7 and in other venues, which was dependence. So it is a meaningless question that 8 9 could only be speculated on. 10 Q. Difficult to know what decision a group 11 of people would have made 45 years ago, if they 12 had had different information available to them, isn't it? 13 14 A. That's been my testimony. 15 Q. And in 1964, the Surgeon General did 16 know that smoking can be very difficult to quit 17 for some smokers, correct? 18 A. Correct. 19 Q. I ask you to turn to page 352 of the 20 1964 Surgeon General's Report, titled 21 relationship of smoking to use of addicting COURT REPORTING CONCEPTS, INC. Baltimore, Maryland Phone (410) 821-4888 Fax (410) 821-4889 254 drugs. Second paragraph. Proof of physical dependence requires demonstration of a characteristic and reproducible abstinence 3 4 syndrome upon withdrawal of the drug or chemical which occurs spontaneously, inevitably, and is 5 not under control of the subject. 6 7 Neither nicotine nor tobacco comply with 8 any of these requirements. That is a correct statement today, isn't it, Dr. Henningfield? 9 10 A. Which part, that neither nicotine or 11 tobacco meet criteria for physical dependence; is 12 that what you are asking? 13 Q. No. I'm asking the question I asked. Let me ask it again. In 1964, the Surgeon 14 15 General stated the following: Proof of physical 16 dependence requires demonstration of a 17 characteristic and reproducible abstinence 18 syndrome upon withdrawal of a drug or chemical 19 which occurs spontaneously, inevitably and is not 20 under control of the subject. 21 Neither nicotine nor tobacco comply with COURT REPORTING CONCEPTS, INC. Baltimore, Maryland Phone (410) 821-4888 Fax (410) 821-4889 255 any of these requirements. In fact, many heavy smokers may cease abruptly and while retaining 3 the desire to smoke, experience no significant 4 symptoms or signs or withdrawal. That's what the Surgeon General stated in '64, correct? 6 7 A. The Surgeon General stated the two

Q. I read three sentences.

sentences that you read.

8

A. Okay. The three sentences. 10 Q. I read it correctly? 11 12 A. What you read is what the Advisory Committee wrote. 13 Q. And, in fact, it is true, isn't it, 15 Dr. Henningfield, that many heavy smokers may cease smoking abruptly and while retaining the 16 17 desire to smoke, may experience no significant symptoms or signs on withdrawal. That is a true 18 19 statement, isn't it? 20 A. Well, it says symptoms or signs, and it 21 is not necessarily true. The reason it is not COURT REPORTING CONCEPTS, INC. Baltimore, Maryland Phone (410) 821-4888 Fax (410) 821-4889 necessarily true is you can have objective signs 1 2. which some individuals may tolerate better than 3 others. For example, in our laboratory studies, we found changes in brain function to occur 5 reliably in people that were indicative of physical dependence, though not all of those 6 7 individuals appeared to be visibly suffering 8 symptoms, and this is the distinction between 9 signs and symptoms. So I'm not sure that it is 10 true then, I'm not sure that it is true now. It is the case that many heavy smokers cease 11 abruptly. We know the same is true of heroin, 12 13 cocaine and alcohol. So that doesn't distinguish 14 nicotine there. 15 Q. All right. Let me try it. Many heavy 16 smokers stop smoking cold turkey, don't they? 17 A. Correct. Q. Without any assistance from physicians, either in the nature of counseling or nicotine 19 20 supplementation or any other way, correct? A. Let me qualify that. You are using the 21 COURT REPORTING CONCEPTS, INC. Baltimore, Maryland Phone (410) 821-4888 Fax (410) 821-4889 word "many" and "many" is meaningless unless we evaluate it in the context of how many people make the effort. And in the context of how many 3 people make the effort, a more correct statement 5 is that a small percentage of heavy smokers cease 6 abruptly. 7 Q. Some heavy smokers cease abruptly, that is a fair statement? 8 9 A. That's a fair statement. Q. Some heavy smokers cease abruptly and go 10 11 cold turkey, no help from an a physician, in the 12 nature of counseling or any other assistance, 13 correct? 14 A. That's correct. 15 Q. Some of those heavy smokers who stop smoking cold turkey experience no symptoms that 16 disrupt their lives; is that correct? 17 18 A. That's correct. 19 Q. Tell me what your testimony would be 20 with respect to the early 1980's when the 21 National Institute on Drug Abuse recommended that COURT REPORTING CONCEPTS, INC.

cigarettes be labeled as addicting but was resisted by the tobacco industry.

A. The director of the National Institute on Drug Abuse, Dr. William Pollin, testified before Congress and I believe that Surgeon General Koop gave testimony, but the key testimony that I am familiar with was that by Dr. William Pollin who was director of the National Institute on Drug Abuse, and in the hearings, the tobacco industry experts, such as Theodore Blau, B-L-A-U, testified that cigarettes were more like hamburgers than they were like addictive drugs.

And my opinion is that this sort of testimony from the industry that ostensibly knew a lot about their product was important in blocking the recommendation that cigarettes be labeled as addicting.

- Q. What type of hearings were you talking about now?
 - A. Waxman chaired at least one of the COURT REPORTING CONCEPTS, INC.

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hearings, in the fall of '82, spring of '83, in that period, I believe there were two hearings.

- Q. Is it your position that the cigarette manufacturers' position in those hearings convinced Congress not to adopt a label warning regarding the addicting or dependence producing properties of nicotine?
- A. It was clearly a factor, because the industry could have come in and stated what their more recent documents are stating and what Philip Morris is now stating on its web site, cigarettes are addicting, or it could have done what it did, which is send in people like Theodore Blau to compare cigarettes to hamburgers and trivialize the importance of nicotine.

They chose to do the latter and the record speaks for itself.

Q. Tell me how it is you know that members of Congress made their decisions as to whether or not to proceed with legislation requiring additional labeling based upon the testimony of COURT REPORTING CONCEPTS, INC.

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- 1 Theodore Blau and others at the congressional 2 hearings?
 - A. I can't take a specific committee recommendation or vote to one person's testimony. What I can do is recall that I was involved in the process and participated in the process, and that the National Institute on Drug Abuse had come to a conclusion, which was opposed by the tobacco industry, and which, as we sit here today, we now know that the tobacco industry's

11 documentation that they had were different from 12 what they testified before Congress. 13 Now, had the industry come forward and 14 said nicotine in cigarettes is addicting and dosage control is critical, and these are all the 15 16 things we do, is it possible that the committee would have rejected the industry's conclusions 17 18 and not required the label of addicting? It is 19 possible. I don't know. 20 But we don't know, because the industry 21 opposed it. COURT REPORTING CONCEPTS, INC. Baltimore, Maryland Phone (410) 821-4888 Fax (410) 821-4889 261 Q. Let me ask you this: The Surgeon General's Report on addiction in which the 2. 3 definitive conclusion was reached about the addictive properties of cigarettes came out in 5 1988, correct? 6 A. Correct. 7 Q. Over twelve years ago, correct? A. Correct. Q. And that there has been no warning label 9 with respect to addiction placed on cigarette 10 11 packs in the intervening twelve years, correct? A. Correct. Well, no, that's not correct, 12 Liggett put the label. 13 14 Q. By Congress? 15 A. But you are right. Congress hasn't 16 ordered it. 17 Q. When did the documentation from the cigarette manufacturers, with respect to their 18 views of the dependence producing properties of 19 20 cigarettes first become available to Congress and 21 anyone interested in the issue? COURT REPORTING CONCEPTS, INC. Baltimore, Maryland Phone (410) 821-4888 Fax (410) 821-4889 262 A. There was extremely limited documentation that had come out of the Cippolone trial, and that is spelled, you will have to help 3 4 5 But the hemorrhage of documentation was 6 associated with the investigation by the Food and 7 Drug Administration, which brought forth 8 documents, the documents that were sent to the University of California and obtained by 9 10 Dr. Stanton Glanson and his colleagues in about 11 '94. 12 I don't recall the exact date that those 13 were obtained. And then the litigation in the 14 mid 1990's accelerated the process. 15 So it has basically been a stream of 16 documents going from a trickle to a flood from 17 about 1993 to 1998. Q. And despite that trickle that has turned 18 19 into a flood, Congress has not chosen to require 20 the placement of a warning label regarding 21 addiction on cigarettes, has it? COURT REPORTING CONCEPTS, INC. Baltimore, Maryland

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 1
            A. That's correct.
 2
            Q. How do you believe the placement of a
      warning label that cigarettes cause addiction on
       the side of a pack would impact public health?
            A. If the label had been there when the
 6
      American Psychiatric Association came to its
      conclusion in 1980, or when the National
 7
 8
      Institute on Drug Abuse recommended it in the
      early 1980s, then in my opinion it would have
 9
10
      legitimized third-party payers for providing
      treatment and would have helped start the
11
12
      development of treatment centers and clinics at
13
      that time potentially offered reimbursement.
14
                It would have been more important in
15
      labeling programs and guidance in educational
      programs for children, whereby children would
16
17
      have been given more realistic information,
18
      instead of what was sometimes done during that
19
      time, where they might be taught about addicting
20
      drugs in one class and spoken to about cigarettes
21
       in another class or maybe even allowed to go out
                COURT REPORTING CONCEPTS, INC.
                      Baltimore, Maryland
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                                                     264
       into smoking rooms, as was sometimes done in
 1
       schools during that period.
 3
               History, I think, would have been very
 4
      different, had there been a disorder that was
 5
      more widely recognized and was recognized by
 6
      government agencies that would have been related
 7
      to that.
 8
                Even things like the taxation process
 9
      would have been different during, after the 1988
10
       Surgeon General's Report.
11
                It was recommended by, I believe, the
12
      Centers for Disease Control, the treatment for
13
      dependence be considered tax deductible.
14
                The IRS refused in part on the basis of
15
      their understanding of tobacco industry
      testimony, that despite the Surgeon General's
16
17
      conclusions, that the conclusion was not clear
18
      and was uncertain. And I know that, because I
19
      participated in those discussions.
20
                Would having changed the taxation have
21
      itself made a big difference in public health? I
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                                                      265
      don't think so. That's not what I am testifying.
 1
                But it is an example of one of the many,
 3
      many things that would have likely been
      different, had there been the consensus,
      legitimized through Congress, legitimized in the
 5
 6
      labeling, that nicotine in cigarettes was
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Q. Is there a consensus today that nicotine in cigarettes is addictive?

A. There is a consensus in all major health organizations worldwide. It is difficult to find

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8

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10

11

addictive.

12 exceptions. 13 Q. And, in fact, Liggett's products carry 14 an addiction warning label, don't they? 15 A. Yes. Q. And the belief that cigarettes are 17 properly labeled as an addictive product is one that has been widely disseminated within our 18 19 society, isn't it? A. It has been disseminated and trivialized 20 and opposed. So efforts have been made to 21 COURT REPORTING CONCEPTS, INC. Baltimore, Maryland Phone (410) 821-4888 Fax (410) 821-4889 266 disseminate it by public health officials. And until the tobacco industry 3 executives, I think, realized how ridiculous their statements before Congress looked in 1994, in the light of their own documentation, the 6 industry contested it. 7 And it will be interesting to see in 8 this trial what the industry's position is. 9 The expert that has been drawn upon by 10 the industry denies it to this day, which is just 11 at odds with Philip Morris' web site or seems to 12 Q. What expert are you talking about? 13 A. Edward Workman. 14 Q. Would you agree that today at least, the 15 belief that cigarettes are properly described as 17 addicting is widely disseminated within our 18 society? 19 A. It is increasingly widely disseminated, and I don't know the degree to which it is 20 21 understood or appreciated, since it would be COURT REPORTING CONCEPTS, INC. Baltimore, Maryland Phone (410) 821-4888 Fax (410) 821-4889 267 1 reasonable for consumers to frankly be confused or wonder what's going on, if cigarettes are 3 labeled for the potential to produce cancer but not addiction. It would help messages, as with 5 marketing, clear unambiguous messages are 6 important. 7 And as recently as 1996, the joint 8 response of the tobacco industry --9 Q. I'm asking you about today, Doctor, stay 10 with the question. 11 A. Today, as evidenced by one of the 12 experts that you have listed in this case, that we are dealing with today, has said there is no 13 14 rational basis for the concept of nicotine 15 addiction. 16 Q. Do you believe that affidavit is going 17 to have a large impact on public health? A. I hope not. 18 Q. You think it has been widely 19 20 disseminated within our society? 21 A. I hope not. COURT REPORTING CONCEPTS, INC. Baltimore, Maryland Phone (410) 821-4888 Fax (410) 821-4889

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Q. You think it has been?
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- A. If it is a factor in a ruling, which would seem incredible to me, because it is so out of line with the current state of knowledge, then it would be a factor, it would be a factor in confusing the public about what we really mean by addiction to tobacco.
- Q. Have you been reading about that affidavit in newspapers or hearing smokers on the street, talking about that affidavit?
 - A. No. And that's not my point.
- Q. You understand that now at least I hope you understand that there is not any claim for smoking cessation in this lawsuit, don't you?
 - A. Correct.
- $\ensuremath{\mathtt{Q}}.$ Let's get back to what we were talking about here.

Now, is the incidence of youth smoking decreasing currently?

A. What?

2.0

Q. Is the incidence -- is the prevalence of COURT REPORTING CONCEPTS, INC.

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youth smoking going down?

A. It is not clear. There are some states like Massachusetts and Florida where it looks pretty clear that progress is being made.

Nationwide it looks like there is a possibility that we have a slight downturn nationwide, and I think it is going to be another year or two before we know if that effect is real and if it is persistent.

There are some hopeful signs from a public health perspective.

- Q. You told me earlier that the prevalence of smoking in West Virginia has been stagnating and not changing in a meaningful direction to your knowledge; is that correct?
- A. From the two sets of data that I have brought in, there had been little change, except a slight increase from 1997 to 1998.

And I believe that the overall rates of smoking in West Virginia had declined from the 1950's, until the late 1980's, and at some year, COURT REPORTING CONCEPTS, INC.

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and I don't recall which year, but I believe between approximately 1985 and 1992, the rates became relatively stable in West Virginia, and I do not believe have shown a major shift since then.

I'm not saying there wasn't any change. There is always a little bouncing around from year to year. But if we ran it certainly from the 1960's to the 1980's, there was a period of declining smoking prevalence in many states that ceased for all practical purposes in about the late 1980's.

Q. All right. Let's go to the third 13 example you provided, and let me ask you to tell 14 us what your testimony would be with respect to 15 16 how the cigarette manufacturers have prevented an addiction warning being added to the labeling of 17 18 cigarettes since release of the Surgeon General's 19 Report of 1988. 20 A. What are you asking me that we haven't already discussed? I discussed their counter 21 COURT REPORTING CONCEPTS, INC. Baltimore, Maryland Phone (410) 821-4888 Fax (410) 821-4889 testimony in 1988, I testified myself along with the Attorney General and the head of the Food and Drug Administration in July of 1988. 4 The tobacco industry offered counter 5 testimony that cigarettes were not addicting, that the Surgeon General's Report was wrong, that they did the same thing in January 2nd, 1996. 7 8 What are you asking that we haven't covered? 9 Q. Well, everything, I believe, because 10 what you and I covered previously was the 11 testimony related to the early 1980s, when NIDA, 12 apparently, attempted that. 13 I'm now asking you about post '88. Identify for me the hearings that were held in 14 1988? 15 A. In July of 1988, there were 16 17 congressional hearings, and I believe that 18 Congressman Waxman chaired the hearing that I 19 participated in, and primary government witnesses 20 were myself representing the National Institute 21 on Drug Abuse, and that was at the request of the COURT REPORTING CONCEPTS, INC. Baltimore, Maryland Phone (410) 821-4888 Fax (410) 821-4889 of the director of the National Institute on Drug 1 Abuse, Dr. Shuster, Dr. Frank Young who was the 3 commissioner of the Food and Drug Administration, and Surgeon General C. Everett Koop. There was other testimony as well, but I believe we were 5 considered the primary witnesses. We testified 6 7 that cigarettes were addictive, the industry 8 written and verbal testimony, as the record 9 shows, went to great lengths to undermine the 10 credibility of the Surgeon General's Report, the conclusions, to call into question the data. 11 12 It was a pretty extensive effort that I 13 think was effective in leading some to conclude that the case was not closed despite the Surgeon 14 15 General's Report. 16 Q. And as I asked you for the prior 17 hearing, how is it that you were able to 18 determine that any particular congressman based his recommendation, as to whether or not a 19 20 nicotine warning should be added to the label upon the testimony and evidence provided by the COURT REPORTING CONCEPTS, INC. Baltimore, Maryland

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cigarette manufacturing industry? A. I'm not. 2 3 Q. Tell me about, I think you said the third set of hearings, which were held with respect to whether an addiction warning should be 6 added to the label occurred in 1996; is that 7 correct? A. In 1996, no. 1995 was the issuance by 8 9 the Food and Drug Administration of the proposed rule to regulate cigarettes and smokeless 10 11 tobacco. They put the rule up for comment and 12 extended the deadline of comment to, I believe, 13 January 2nd, 1996. 14 At that time, the tobacco industry joint 15 documents strongly opposed the FDA's conclusion that nicotine and cigarettes were addictive. 16 They strongly contested the pharmacological role 17 18 and one of the subheadings of one of the comments 19 specifically said that nicotine does not have 20 substantial pharmacological effects. Those are 21 statements that --COURT REPORTING CONCEPTS, INC. Baltimore, Maryland Phone (410) 821-4888 Fax (410) 821-4889 274 1 Q. Those were statements made to the FDA, is that correct? A. Yes. Those were statements made in the 3 written record to the Food and Drug 5 Administration and submitted to the FDA as the 6 official comments and response of the tobacco 7 industry. 8 Q. Those statements certainly did not slow down the FDA, in determining whether or not to 9 regulate cigarettes, did they? 10 11 A. It certainly slowed it down. It 12 certainly, the opposition by the industry 13 certainly slowed down congressional support. 14 Q. The FDA ultimately chose to regulate 15 cigarettes, in spite of the industry's comments, 16 correct? 17 A. Correct. Q. Because we all know the Fourth Circuit 18 19 and then United States Supreme Court has found 20 that the FDA does not have jurisdiction to 21 regulate cigarettes? COURT REPORTING CONCEPTS, INC. Baltimore, Maryland Phone (410) 821-4888 Fax (410) 821-4889 275 A. They made a jurisdictional ruling, not a ruling on the science. 3 Q. That was my statement. A. Correct. 5 Q. And so that industry's contesting the 6 scientific issues in front of the FDA did not 7 affect whether or not the FDA chose to regulate 8 cigarettes and ultimately did not affect whether 9 or not the FDA was permitted to regulate 10 cigarettes, did it? 11 A. It was a factor, and anybody that was 12 familiar with the process knows that it was a 13 factor, when the industry came in and said that

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14
      the science was wrong and flawed, they contested
15
      the role of nicotine most strongly.
               It meant that there was far from the
16
17
      consensus needed for Congress to be able to take
      the action that it, in my opinion, would have
18
19
      otherwise --
            Q. Let me back up now. The FDA chose to
20
21
      regulate cigarettes, despite the industry's
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      scientific submissions that it should not do so,
      correct?
           A. Correct.
            Q. Having chosen to regulate cigarettes,
 5
      the FDA was reversed by the Federal Court of
 6
      Appeals and then the Supreme Court, because of a
 7
      lack of jurisdiction to regulate cigarettes,
 8
      correct?
 9
           A. Correct.
            Q. The reversal of the FDA's decision was
10
      not based upon the scientific submissions made by
11
12
      the cigarette manufacturers, correct?
           A. It would be an over simplification to
13
14
      say that that was not a factor. The tobacco
      industry, as the record shows, came in with a
15
      bulldozer of lawyers fighting every element
16
      virtually of the FDA's ruling, and the combined
17
18
      effect was the result that we saw in the court
19
      system.
20
               Now, for you to say that the science,
21
      that their opposition of the science was not a
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      factor, I don't believe that their opposition was
      meaningless, even though the Supreme Court ruling
 3
       focused mainly on the jurisdictional issue.
            Q. I'm willing to accept it either way. I
 5
      want you to choose one or the other. Did the
      Court of Appeals and Supreme Court base its
 6
 7
      dicision upon jurisdictional issues alone or in
 8
      part did it reverse the FDA because of the
9
      scientific issues with respect to whether or not
10
      FDA should regulate cigarettes?
11
           A. The ruling was focused on the
12
       jurisdictional issue.
13
                But what I am saying is that the
14
      opposition at all of the other levels, I believe,
      was part of the entire process. I don't think
15
16
      the Supreme Court Justices live in a complete
17
      vacuum. It is not possible for me to say that
18
      the industry's blocking or attempt to block the
19
      science and undermine the science was a factor or
      was not a factor, but it was an event that the
20
21
       industry did, that is at odds with the
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                                                     278
 1
      documentation that we now know they had.
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I don't know how things would have been 3 different, if they had been fully forthcoming. 4 Q. I agree with you completely on that last 5 statement. I need to walk through with you the rest 7 of your disclosure. But before I do that, I want to ask you this, because it is something I want 8 9 to make sure we cover today. 10 Early on today, you, I thought, 11 indicated that you might have some opinions with 12 respect to how implementation of the medical 13 monitoring program suggested by plaintiffs in 14 this case might affect quitting or cessation of 15 smoking among class members. Did I understand 16 you correctly? 17 A. Yes. 18 Q. Let me ask you first to describe for me 19 what you understand to be the medical monitoring 20 program being recommended by the plaintiff's 21 experts in this case? COURT REPORTING CONCEPTS, INC. Baltimore, Maryland Phone (410) 821-4888 Fax (410) 821-4889 279 A. What I know I can state very simply, 1 because I am not familiar with the details of it. I am familiar enough with it that I have come to the conclusion that it does not include specific 4 5 smoking cessation treatment and that that is not 6 the intent of the program, but that people that 7 meet the class definition at least of five pack 8 years would undergo regular medical evaluations 9 for a variety of conditions. I'll stop there. 10 Q. Okay. You also, I assume, understand 11 12 that the regular medical evaluations would only 13 begin once the class members reached certain 14 ages? A. Yes. I assume that. I don't recall the 15 16 details of the implementation. 17 Q. Well, you can't be blamed for that, 18 because it is a moving target. MR. GRUENLOH: Move to strike. 19 20 Q. Let me ask you then what your opinions 21 are with respect to how, at least at the level of COURT REPORTING CONCEPTS, INC. Baltimore, Maryland Phone (410) 821-4888 Fax (410) 821-4889 1 detail you understand it, the plaintiff's medical monitoring recommended regimen would impact cessation rates? 4 A. What it means is that smokers would be 5 more reliably and regularly brought into a 6 medical system that would be attending to 7 smoking-attributable diseases. 8 Why that is relevant is because while 9 other events are happening in the world at the 10 same time, one of them is that health 11 professionals are receiving things like the 12 clinical practice guidelines, which are saying, 13 making very forceful arguments, that health 14 professionals should strongly encourage people to 15 stop smoking and should offer assistance, and 16 that, I believe, this will continue to increase. 17 That is an important dynamic factor in 18 smoking cessation rates. And one of the conclusions, in fact, of 19 20 the practice guideline, was that there is a public health benefit of simply getting health 21 COURT REPORTING CONCEPTS, INC. Baltimore, Maryland Phone (410) 821-4888 Fax (410) 821-4889 281 professionals to talk more to their patients about the adverse effects of smoking and the 2. 3 benefits of quitting. 4 I believe that this is likely to happen 5 as a part of this medical monitoring, whether or not that is the specific intent of the medical 6 7 monitoring. 8 Q. Let me try to make sure I understand. 9 The more often a smoker sees their physician and 10 is urged by that physician to stop smoking and/or 11 offered assistance in stopping smoking, the more likely that smoker is to, in fact, stop, correct? 12 A. Correct. 13 14 Q. That occurs regardless of whether or not 15 the physician in those meetings also conducts 16 certain tests of the patient to determine whether 17 or not they currently have a smoking-related 18 disease, correct? 19 A. It can. However, what is sometimes 20 called the teachable moment or the reachable moment is when a health professional is 2.1 COURT REPORTING CONCEPTS, INC. Baltimore, Maryland Phone (410) 821-4888 Fax (410) 821-4889 282 specifically talking to a smoker about a smoking-related symptom or disease, that that is 3 a particularly good time to talk about smoking 4 cessation. 5 Now, it is theoretically possible that 6 this would never happen under the medical monitoring situation, but I have a lot more 7 8 confidence in the integrity of the health 9 professionals in West Virginia, that they would 10 offer such guidance to smokers, even if that is 11 not the specific charge of the medical 12 monitoring. 13 Q. Now, this teachable moment that you are 14 talking about, I take it that that occurs when 15 the individual is told by their physician that 16 they, in fact, are developing a smoking-related 17 illness; is that correct? 18 A. It can, or it can be with a symptom such 19 as coughing or a cold that may not be directly 20 attributable to smoking, but it becomes an opportunity for the physician to point out that 21 COURT REPORTING CONCEPTS, INC. Baltimore, Maryland Phone (410) 821-4888 Fax (410) 821-4889 283 1 this is something that can be exacerbated by smoking. It makes the reality of smoking

toxicity more real at an individual level. This
has been understood for quite a few years, so it
is not novel.

My understanding is that the medical
monitoring intent is not to do this, but what I
am saying is that I believe that it is likely
that if we increase the contact of cigarette
smokers with health professionals who are

they will be more likely to get advice and

guidance to quit smoking.

Q. Are there any empirical data that show that, in fact, individuals who receive medical monitoring for smoking-related diseases are any more likely to stop smoking than individuals that are simply counseled by their physicians to stop smoking?

concerned about smoking attributable disease that

A. There are, is a conclusion by the 1996 clinical practice guideline, and again by the COURT REPORTING CONCEPTS, INC.

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recent U.S. Public Health Service guideline issued this past June, that guidance has benefits and that the guidance can be demonstrated, whether the person is a physician, in other words, if there are a variety of kinds of health care officials that can have this beneficial effect, what that tells us is that the benefit is not limited to an isolated kind of situation, but it is a generalizable benefit, to the best of our knowledge, and, therefore, I think it is a reasonable inference that in a medical monitoring program pertaining to cigarette smoking, that such guidance will occur.

If you are asking me if the guidance will be any better than it would in a general practice setting, I don't know, but the medical monitoring program for smokers is intended to bring smokers more regularly and more reliably into contact with health professionals and that's a good step in the right direction with respect to cessation.

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Q. There for a moment you came close to answering my question, so let me try again.

I'm not really asking you about reasonable inferences that you might draw. I'm asking you whether there are any empirical data, observational data that shows that individuals who receive medical monitoring for smoking related diseases are any more likely to stop smoking than individuals who are counseled by their physicians to stop smoking?

A. I don't know. It would be consistent with the concept of the teachable moment, but I'm not sure if there has been -- you constructed the question very narrowly, and I don't know if the studies, I would have to go back and look at the

```
studies I described in the guideline to see if
17
      they would meet the rather narrow definition that
18
      you have articulated.
19
           Q. I don't know that I am articulating any
20
      definition.
2.1
           A. Or just say the way you are asking the
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                                                     286
      question, I don't know. I made an attempt to
 1
      answer it as I understand it and why I believe
 3
      there is probably benefit and why it is a step in
      the right direction, but as to a specific
 5
      empirical study on medical monitoring benefit as
 6
      opposed to -- I don't know.
 7
           Q. You read Dr. Benowitz's deposition,
 8
      right?
 9
           A. As I told you, I went through it very
10
      quickly and didn't spend a lot of time with it.
11
           Q. You saw I asked Dr. Benowitz these kinds
      of questions, didn't you?
12
13
           A. I saw there was some discussion of
14
      medical monitoring. I went through this very
      quickly, because that is not my primary area of
15
16
      expertise, nor the reason that I believe I have
      been asked to serve in this trial.
17
               So I won't even pretend to be intimately
18
      familiar with what he said, what the questions
19
20
      were. I would be happy to go back and look at
21
      it, if you want to point out things.
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                                                     287
           Q. If two individuals go to a physician,
      two smokers go to a physician, and they are both
      counseled to stop smoking and offered assistance
      by their physician, but one of them also receives
 4
 5
      a spirometry test while there, is either one of
      them more likely to guit than the other, based on
 7
      that interaction with a physician?
           A. I don't know.
 8
           Q. Would it matter whether the spirometry
 9
10
      test showed whether smoking was affecting their
11
      lung function or not?
12
           A. It may, if it creates the possibility of
13
      a teachable moment.
           Q. What kind of moment do you think it
15
      creates if the smoker is told that, well, despite
16
      your smoking it doesn't appear to be affecting
17
      your lung function?
18
           A. It is a lost opportunity. I don't know.
19
      You are raising hypotheticals. I don't know.
20
               THE WITNESS: When you come to a
21
      convenient point, could I have about five
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                                                     288
 1
      minutes?
 2
               MR. FURR: Sure. You can take it now.
 3
                (Break.)
```

Q. Dr. Henningfield, I asked you these 5 questions at least tangentially, but let me ask 6 them directly now. 7 Have you ever attempted to review the literature to determine whether or not 9 participation in a medical monitoring program 10 affects quit rates separate and apart from the 11 effect of simply being in the presence of a 12 physician during a participation? 13 A. No. 14 Q. Do you know of any evidence that participating in a medical monitoring program 15 affects quit rates among smokers separate and 16 17 apart from the effect of simply being in the 18 presence of a physician or other health care 19 provider by virtue of participating in the 20 medical monitoring program? 21 A. Yes. All other things were equal. In COURT REPORTING CONCEPTS, INC. Baltimore, Maryland Phone (410) 821-4888 Fax (410) 821-4889 289 other words, if there were the same regularity and reliability of seeing a health professional and when you walk in the door and one says 3 medical monitor on the door and the other doesn't, I don't know that there would be a difference. The difference is to get in the door 6 at all, that brings you in contact with a health 7 8 professional, which is what the medical 9 monitoring would do. 10 Q. Is it possible that, as you just 11 described it, all other things being equal, that walking in the door that allows you to participate in the medical monitoring program 13 14 versus going into the door where you just 15 interact with a physician might actually decrease a smoker's likelihood of quitting? 16 17 A. It is possible, but I believe 18 improbable. 19 (Whereupon, Henningfield Deposition 20 Exhibit No. 10, article by Badgett, marked.) Q. Dr. Henningfield, let me ask you to take 21 COURT REPORTING CONCEPTS, INC. Baltimore, Maryland Phone (410) 821-4888 Fax (410) 821-4889 290 a look at what we have marked as Henningfield Exhibit 10, which is an article entitled Is Screening for Chronic Pulmonary Obstructive Disease Justified, by Robert Badgett. Do you have that in front of you? 6 A. Yes. I do. 7 Q. That was published in Preventive 8 Medicine, in 1997; correct? 9 A. Yes. 10 Q. That is a peer-reviewed journal, isn't 11 it? 12 A. Yes. 13 Q. Is that a journal that you read on a 14 regular basis? 15 A. I read it when there is an article of 16 interest. It is not a journal that I subscribe

17	to or obtain regularly.
18	Q. Have you ever seen the article that we
19	have marked as Deposition Exhibit 10?
20 21	A. It looks familiar, but I am not positive that I've had it in my possession.
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1	Q. Did you read the portion of
2	Dr. Benowitz' deposition in which I questioned Dr. Benowitz on this article?
3 4	A. I don't remember a specific questioning
5	or testimony.
6	Q. Let me ask you to look at the last
7	sentence in the results section of the abstract,
8	I'm sorry.
9	The statement is made that smokers with
10 11	abnormal spirometric results are less likely than other smokers to quit over the ensuing year. Do
12	you see that?
13	A. Yes.
14	Q. Is that a statement with which you
15	agree?
16	A. Well, I'm not sure what you mean. The
17 18	sentence is there. Q. Is it a correct sentence, in the sense
19	that do the data support that conclusion?
20	A. I would assume, but I have not verified
21	it for myself that that is a result that was
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1	Phone (410) 821-4888 Fax (410) 821-4889 292 found in the study.
2	Phone (410) 821-4888 Fax (410) 821-4889 292 found in the study. That doesn't mean it explains the
2	Phone (410) 821-4888 Fax (410) 821-4889 292 found in the study. That doesn't mean it explains the results or, even without having read the study,
2	Phone (410) 821-4888 Fax (410) 821-4889 292 found in the study. That doesn't mean it explains the
2 3 4	Phone (410) 821-4888 Fax (410) 821-4889 292 found in the study. That doesn't mean it explains the results or, even without having read the study, there are any number of explanations for such a
2 3 4 5 6 7	Phone (410) 821-4888 Fax (410) 821-4889 292 found in the study. That doesn't mean it explains the results or, even without having read the study, there are any number of explanations for such a result. Q. This is not a study, this is a literature review, correct?
2 3 4 5 6 7 8	Phone (410) 821-4888 Fax (410) 821-4889 292 found in the study. That doesn't mean it explains the results or, even without having read the study, there are any number of explanations for such a result. Q. This is not a study, this is a literature review, correct? A. I haven't read the article. I would be
2 3 4 5 6 7 8 9	Phone (410) 821-4888 Fax (410) 821-4889 292 found in the study. That doesn't mean it explains the results or, even without having read the study, there are any number of explanations for such a result. Q. This is not a study, this is a literature review, correct? A. I haven't read the article. I would be happy to review it.
2 3 4 5 6 7 8	Phone (410) 821-4888 Fax (410) 821-4889 292 found in the study. That doesn't mean it explains the results or, even without having read the study, there are any number of explanations for such a result. Q. This is not a study, this is a literature review, correct? A. I haven't read the article. I would be happy to review it. Q. Let me ask you to read the abstract for
2 3 4 5 6 7 8 9	Phone (410) 821-4888 Fax (410) 821-4889 292 found in the study. That doesn't mean it explains the results or, even without having read the study, there are any number of explanations for such a result. Q. This is not a study, this is a literature review, correct? A. I haven't read the article. I would be happy to review it.
2 3 4 5 6 7 8 9 10	Phone (410) 821-4888 Fax (410) 821-4889 292 found in the study. That doesn't mean it explains the results or, even without having read the study, there are any number of explanations for such a result. Q. This is not a study, this is a literature review, correct? A. I haven't read the article. I would be happy to review it. Q. Let me ask you to read the abstract for me now, and I will see what questions you can answer. A. I will read the abstract. I will still
2 3 4 5 6 7 8 9 10 11 12 13 14	Phone (410) 821-4888 Fax (410) 821-4889 292 found in the study. That doesn't mean it explains the results or, even without having read the study, there are any number of explanations for such a result. Q. This is not a study, this is a literature review, correct? A. I haven't read the article. I would be happy to review it. Q. Let me ask you to read the abstract for me now, and I will see what questions you can answer. A. I will read the abstract. I will still be careful on my responses, because the abstract
2 3 4 5 6 7 8 9 10 11 12 13 14 15	Phone (410) 821-4888 Fax (410) 821-4889 292 found in the study. That doesn't mean it explains the results or, even without having read the study, there are any number of explanations for such a result. Q. This is not a study, this is a literature review, correct? A. I haven't read the article. I would be happy to review it. Q. Let me ask you to read the abstract for me now, and I will see what questions you can answer. A. I will read the abstract. I will still be careful on my responses, because the abstract is only that.
2 3 4 5 6 7 8 9 10 11 12 13 14 15 16	Phone (410) 821-4888 Fax (410) 821-4889 292 found in the study. That doesn't mean it explains the results or, even without having read the study, there are any number of explanations for such a result. Q. This is not a study, this is a literature review, correct? A. I haven't read the article. I would be happy to review it. Q. Let me ask you to read the abstract for me now, and I will see what questions you can answer. A. I will read the abstract. I will still be careful on my responses, because the abstract is only that. Okay. I have read the abstract.
2 3 4 5 6 7 8 9 10 11 12 13 14 15	Phone (410) 821-4888 Fax (410) 821-4889 292 found in the study. That doesn't mean it explains the results or, even without having read the study, there are any number of explanations for such a result. Q. This is not a study, this is a literature review, correct? A. I haven't read the article. I would be happy to review it. Q. Let me ask you to read the abstract for me now, and I will see what questions you can answer. A. I will read the abstract. I will still be careful on my responses, because the abstract is only that.
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2 3 4 5 6 7 8 9 10 11 12 13 14 15 16 17 18 19 20 21	found in the study. That doesn't mean it explains the results or, even without having read the study, there are any number of explanations for such a result. Q. This is not a study, this is a literature review, correct? A. I haven't read the article. I would be happy to review it. Q. Let me ask you to read the abstract for me now, and I will see what questions you can answer. A. I will read the abstract. I will still be careful on my responses, because the abstract is only that. Q. Okay. This article purports to be a literature review in which they have attempted to address whether or not spirometric screening of asymptomatic smokers affects smoking cessation, correct? COURT REPORTING CONCEPTS, INC. Baltimore, Maryland Phone (410) 821-4888 Fax (410) 821-4889 A. Correct.

correct? 6 A. That is one conclusion listed in the 7 abstract there, even the abstract has other 8 conclusions. 9 Q. I'm only asking but that conclusion now? 10 A. That is, I mean, what you read is in the 11 abstract. 12 Q. And is that consistent with your understanding of what the data show? 13 14 A. I would have to spend more time looking 15 at this, just looking at the abstract or pointing out that two studies found multi-facetted smoking 17 cessation programs that included spirometry were 18 efficacious. 19 There was no effect in a third study 20 that isolated the role of spirometry. It is not 21 surprising, based on what we know about smoking COURT REPORTING CONCEPTS, INC. Baltimore, Maryland Phone (410) 821-4888 Fax (410) 821-4889 294 cessation, if you just do one specific thing, that it may have no benefit. 3 As to the conclusion that with abnormal 4 spirometric results are less likely than other 5 smokers to quit, you know, I don't know if that 6 is because those smokers are more addicted, which 7 could also be consistent or what the explanation 8 is. And so I won't speculate without looking at 9 the article in greater detail. 10 Q. I want to ask you this question separate 11 and apart from what this article states, and put 12 it to you as an expert in this case. If you don't know the answer, that's 13 fine, you can just tell me you don't know. 14 15 But do you know whether smokers with 16 abnormal spirometric results are more or less 17 likely than smokers with normal spirometric 18 results to quit over the ensuing year? 19 A. I don't know. 20 Q. This is probably the same question, but 21 let me ask it a slightly different way. COURT REPORTING CONCEPTS, INC. Baltimore, Maryland Phone (410) 821-4888 Fax (410) 821-4889 295 1 Does informing a smoker of the results of spirometric testing result in either an increase or a decrease in smoking cessation rates, or do you know? 5 A. I don't know. 6 Q. Would informing a smoker of the results 7 of an electrocardiogram test result in either an 8 increased or decreased likelihood of smoking 9 cessation, or do you know? 10 A. It would depend on the results and how 11 the message was conveyed. 12 Q. What results would produce what result? 13 A. Well, it is likely that if a person was 14 shown an abnormal electrocardiogram and told very 15 decisively by his or her doctor that this may be 16 caused by the smoking, and they need to quit 17 smoking, it is more likely that they would make

an effort than if they were not given that 19 information. 20 Q. Is that just a matter of common sense to 21 you, or are there empirical data demonstrating COURT REPORTING CONCEPTS, INC. Baltimore, Maryland Phone (410) 821-4888 Fax (410) 821-4889 296 that that, in fact, occurs? 1 A. That's the conclusion of people who have specialized in what I have referred to as the 3 reachable moment, and papers have been published 5 by Nancy Ragotti, R-A-G-O-T-T-I, and others on the importance of the teachable moment, and it is 6 an empirical observation. I don't know how well 7 8 it has been studied, the difference between the 9 advice, you know, mutually given or the advice in 10 that setting. I don't know. 11 Q. I want you to turn to page 468 of that article. Look at the right-hand column, where it 12 13 is stated: Unfortunately, our current knowledge of spirometry in motivating smoking cessation is 14 15 still well described in the 1983 statement by the 16 American Thoracic Society, ATS: "Whether spirometric screening is efficacious in smoking 17 18 cessation programs compared with other modes of intervention still must be assessed." 19 You see that? 20 A. Yes. 21 COURT REPORTING CONCEPTS, INC. Baltimore, Maryland Phone (410) 821-4888 Fax (410) 821-4889 297 Q. I take it from your previous answer that you would agree that that is still a correct statement today? A. What I will say is that in this article, that is published in 1997, they came to a 5 conclusion which has presumably been peer 6 7 reviewed. 8 I don't know if there are subsequent 9 studies. I don't find it completely surprising that a single test done in the absence of a 10 11 multi-facetted program is effective in smoking 12 cessation, so I don't have any basis to question 13 it. 14 Q. Dr. Henningfield, are you familiar with 15 the term rationalization as that term is used to describe the manner in which smokers sometimes 16 17 process mentally information about smoking and 18 health? 19 A. Yes. 20 Q. Would you explain that term to us? 21 A. The term is sometimes used COURT REPORTING CONCEPTS, INC. Baltimore, Maryland Phone (410) 821-4888 Fax (410) 821-4889 298 interchangeably with optimistic bias, although 1 2 you can mean different things. 3 But it is related to the notion that the 4 smoker may either believe that they are not as likely as other smokers are to develop a

6 debilitating disease and/or that if damage has 7 been done, that it is too late to do anything 8 and/or why should they worry about smoking if 9 there is, for example, air pollution or food additives in their Oreo Cookies, for example. 10 11 The term has been used in various ways, but that captures, I think, some of the range. 12 Q. Is this process of rationalization by 13 smokers a factor that affects in at least some 14 15 people their likelihood of quitting smoking. 16 A. It can. 17 Q. How does it do that? A. If the motivation to quit is reduced by 18 19 the belief that either the damage is already 20 done, so it is too late and it doesn't make any 21 difference, or that another cause of disease is COURT REPORTING CONCEPTS, INC. Baltimore, Maryland Phone (410) 821-4888 Fax (410) 821-4889 299 at a higher probability, and here the extreme case would be a battle situation in wartime, or that the person is simply, you know, made of 4 steel, sometimes people will talk about 5 themselves that they are not going to be harmed 6 because they are strong and active. Any of these things can undermine 7 8 motivation to try to quit. 9 Q. So, for example, as was suggested in the 10 last article that we looked at, among smokers who 11 tend to rationalize, there is the possibility 12 that receiving an adverse spirometric test --13 A. You mean an attribution about the article. Where did the article talk about it? Q. Let me try again. Let me try again for 15 16 you. 17 The last article we looked at purported 18 to find that smokers who received abnormal 19 spirometric tests may be less likely than other 20 smokers to quit smoking within the ensuing year, 21 correct? COURT REPORTING CONCEPTS, INC. Baltimore, Maryland Phone (410) 821-4888 Fax (410) 821-4889 1 A. Okay. We are talking about Badgett and 2. Tanaka, and you are taking the statement out of 3 the abstract. Q. Correct. 5 A. Okay. Q. Am I correct that that is what they 6 7 purportedly found? 8 A. I'm with you so far. I just haven't 9 figured out the rationalization connection yet. 10 Q. One explanation for those findings could 11 be the form of rationalization you just described, whereby some smokers might conclude 12 13 that the damage is already done, there is no reason to quit now, correct? 14 15 A. Are you offering that on the basis of 16 your expertise, or asking me to speculate, or is 17 there something in the article about that? You 18 are making a huge leap.

19 Q. Just answer the question. Is that a 20 possibility for the explanation for the results? 21 A. I haven't even read this article. I COURT REPORTING CONCEPTS, INC. Baltimore, Maryland Phone (410) 821-4888 Fax (410) 821-4889 301 don't have a clue. Q. I want you to assume that those results 3 are accurately reported, for purposes of the question. A. You know, you are asking me to make something up. I haven't even read the article. 6 7 I don't know what all kinds of information they 8 collected. Q. Okay. Let's start again, because I 10 don't -- I certainly wouldn't want you to 11 speculate here today. I want you to assume that Badgett 13 correctly or accurately reported that the data 14 show that smokers with abnormal spirometric results are less likely than other smokers to 15 quit within the following year. You understand? 16 17 Assume that's correct. 18 A. Okay. 19 Q. If that's correct, I am asking you 20 whether a possible explanation for that is the type of rationalization that you just explained 21 COURT REPORTING CONCEPTS, INC. Baltimore, Maryland Phone (410) 821-4888 Fax (410) 821-4889 to us, whereby some smokers learn that they have 1 developed a disease process but continue smoking anyway under the notion that the damage has already been done? A. You are asking me is that possible? 6 Q. That is a possible explanation for at 7 least some of those findings? 8 A. That's one possible explanation among 9 many possible explanations. 10 Q. Now, you also explained to us a form of rationalization whereby some smokers tend to 11 12 believe that they are more resistant to or less 13 likely to develop disease from smoking than other 14 people, correct? 15 A. Yes. 16 Q. And if a smoker undergoes a screening 17 test and learns that, in fact, they have not developed any smoking-related disease, does that 18 19 increase the possibility that some of those types 20 of smokers might engage in the type of 21 rationalization whereby they perceive that to be COURT REPORTING CONCEPTS, INC. Baltimore, Maryland Phone (410) 821-4888 Fax (410) 821-4889 evidence that they are less likely to be injured by smoking than others and, therefore, find less 3 of a need to stop smoking? A. You are raising hypotheticals to which 5 anything is possible. I think the important, an important consideration is what people are told

at the time --8 Q. I'm not asking you what you think is 9 important about what they are told, because --10 and I would submit to you that my hypothetical is not absurd, unless you think that Dr. Badgett 11 12 likes to raise absurd hypotheticals. I want you to look at page 470 of the Badgett article. 13 14 A. Let me make a correction for the record, 15 so you don't put words in my mouth. I didn't say 16 your hypothetical was absurd, I don't recall the exact words, but I didn't say that. I said that 17 is a possibility. Q. Let me ask you to turn to page 470 of 19 20 Badgett. In the second full paragraph, beginning with "we recommend", third sentence beginning 21 COURT REPORTING CONCEPTS, INC. Baltimore, Maryland Phone (410) 821-4888 Fax (410) 821-4889 with "if", the following statement appears: If the physician believes that normal spirometric results may falsely reassure a smoker that continued smoking will not be harmful, then 5 the physician may further reserve spirometry for 6 the refractory smoker who is motivated and has 7 clinical findings of COPD. 8 You see that? A. Yes. 9 Q. Are there some smokers that may be 10 11 falsely reassured by normal spirometric results 12 and thus continue smoking? 13 A. It is possible, and I think this kind of 14 information will be important in any medical monitoring program that is set up to maximize the 15 benefit and minimize the unintended consequences. 16 17 Q. Now, there is another term that I have 18 seen you use in the past, to describe one aspect of thought process, of the thought processes that 19 20 some smokers go through with respect to making 21 decisions about smoking, and that is denial. COURT REPORTING CONCEPTS, INC. Baltimore, Maryland Phone (410) 821-4888 Fax (410) 821-4889 305 1 Correct? 2. A. Correct. 3 Q. Would you define denial for us? A. Denial is, can be similar to what I have 5 just been discussing under the framework of rationalization, where people can use the term in 6 7 different ways. 8 But the classic instance is somebody 9 saying that, telling others that the damage will 10 not occur to them, or that if they are sick, for 11 example, it is because of another reason, not 12 related to smoking, even if there is evidence 13 that smoking is important, classic denial in 14 addictions are people that will say I can quit, but I just don't want to now. 15 16 There are many forms. There isn't, when 17 I have used the term, you know, I'm not sure of 18 the real precision that I have used the term. I 19 have used the term over the years and the

20 addiction literature in general uses the term, in 21 ways such as I have just described. COURT REPORTING CONCEPTS, INC. Baltimore, Maryland Phone (410) 821-4888 Fax (410) 821-4889 Q. Let's see if we can close this out and make sure I understand what opinions you are or are not prepared to offer. 4 Separate and apart from the effect on 5 smoking cessation that occurs by virtue of interaction with physicians and other health 6 7 personnel, you are not prepared today to offer 8 any opinions on how participation in the medical 9 monitoring program offered by plaintiffs in this 10 case will affect smoking cessation rates; is that correct? 11 12 A. What I have stated is that I think it is 13 a step in the direction of bringing the smokers 14 more regularly and more reliably into a health 15 care setting with people that will presumably have some familiarity with smoking-attributable 16 17 disease and will be likely to advise people to 18 quit and to perhaps offer aid, even though I 19 understand that advising and aiding is not the, 20 to the best of my knowledge, the intent of the 21 medical monitoring. COURT REPORTING CONCEPTS, INC. Baltimore, Maryland Phone (410) 821-4888 Fax (410) 821-4889 307 All I am saying is that I think that 1 that is a probable consequence or a possible consequence, and if this goes forward I would strongly advise that that is a consequence. 5 And since the U.S. Public Health Service 6 has just offered, issued another practice guideline, I think it would be highly likely that 7 Я that would be a consequence. 9 Q. And so the answer to my question is yes? 10 A. The answer to your question is what I 11 just told you. Q. Here is what I want to understand, 12 13 because you and I will probably have some chances 14 to talk about these things in the future. As I 15 listen to your answer and look at it on the 16 screen, I don't see you doing anything but 17 restating what I said. 18 So I don't understand why you didn't 19 just say yes. What I would like you to explain 20 to me is what I left out of my question or what 21 was missing or misleading about my summary of COURT REPORTING CONCEPTS, INC. Baltimore, Maryland Phone (410) 821-4888 Fax (410) 821-4889 your testimony that you just couldn't say yes to? 1 A. I don't recall. There must have been something I didn't like about the way you put it. 4 MR. FURR: Well, it is 5:15, and as I 5 understand it, we do have an agreement to proceed until 5:30 today. We will proceed just a few more minutes and then stop.

8 I want to make clear though so that we can get out of here on time, and Mr. Gruenloh and 9 10 I have discussed this, that we are going to seek 11 an additional opportunity to have another day to further depose you, both on the documents that we 13 have discussed with you today and on substantive issues that I was unable to reach today. 14 15 Q. Let me ask you first, Dr. Henningfield do you have any objection to providing us an 16 17 additional day sometime in September? 18 A. It will be difficult for me to pull 19 together things or it may be difficult to pull 20 together things, depending on when in September 21 you need it. COURT REPORTING CONCEPTS, INC. Baltimore, Maryland Phone (410) 821-4888 Fax (410) 821-4889 309 1 I have an extremely intense September schedule. As I stated earlier, this litigation activity is a small percentage of my overall activities, and I have a lot of other 5 responsibilities. 6 So, yes, I have a general objection. It 7 will be difficult. I'm not saying it will be 8 impossible. Q. Assuming your schedule permits it, do 9 you have any other objections to providing us 10 with an additional day? 11 12 A. If my schedule permits it, if it is 13 possible, it is possible. I don't object in 14 principle. It is just the practical reality that 15 I have other professional responsibilities. MR. WOOLSON: Let me put on the record 16 17 that Liggett does want to ask just a few 18 questions at some point, and we anticipated it would be at the end of the other defendants' 19 questioning. So if there is a continuation, 20 21 that's when we would like to do it. COURT REPORTING CONCEPTS, INC. Baltimore, Maryland Phone (410) 821-4888 Fax (410) 821-4889 MR. NEWBOLD: On behalf of Lorillard, I would like to state that we too have questions to 3 ask on substantive issues that have not yet been 4 asked in this deposition. 5 We also restate our prior statement 6 pertaining to the documents, and ask that we have 7 an opportunity to be shown the documents which 8 pertain specifically to Lorillard and to be given 9 the opportunity to ask questions on those 10 documents. 11 We will need additional time to do those 12 two things. 13 MR. GRUENLOH: Before we go on, I'll 14 tell you what I told Jeff before. As we sit here 15 today, I'm not going to agree to provide an extra day. I told Jeff that I would be willing to go 16 17 back and talk to my co-counsel and discuss it 18 with them, just so you know. 19 MS. HILL: This is Gabrielle Hill, on 20 behalf of Brown & Williamson, I too reserve the

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21
      right to ask further questions, sir.
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                     Baltimore, Maryland
          Phone (410) 821-4888 Fax (410) 821-4889
               MR. WOOLSON: I'll say it is 5:20, and I
      would suggest all of you are trying to get to
       airports and trains, you probably should go.
               MR. FURR: Based upon that local
 5
      knowledge, I think we will adjourn for today.
               MR. GRUENLOH: I have two or three
 6
 7
      questions.
               MR. FURR: If we are going to continue,
 8
 9
      I will continue.
               MR. GRUENLOH: I have five minutes.
10
11
               MR. FURR: I don't think it is proper to
12
      do that if we are going in order.
13
               MR. GRUENLOH: I didn't say we were
      going in order. I said I would talk to my
15
      co-counsel.
               MR. FURR: That's not the point. I mean
16
17
      as long as we continue while we're here today, I
      will continue asking the questions or pass it to
18
19
      the other defense counsel, who are entitled to
20
      ask questions before you get to today, Mike.
21
               So we can either adjourn now, or else I
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                     Baltimore, Maryland
          Phone (410) 821-4888
                                Fax (410) 821-4889
      will keep going up until 5:30. What I am not
 1
      going to do is agree that you can go out of order
 2.
 3
      and ask your questions today. I don't think
      that's appropriate.
 5
               MR. GRUENLOH: We've agreed to go to
 6
      5:30. If that's the position you will take, I
 7
      will say the defendants can go to 5:30 and then
      at 5:30 I will ask my questions.
 8
9
               MR. FURR: No. We'll be done for the
10
      day at 5:30. We agreed we'd be done for the day
11
      at 5:30. We are done, and you can sit in here
12
      and ask questions of the doctor if you want to,
13
      but it will be over our objection and we'll all
14
      be gone, because that's when we agreed we would
15
      be stopping today.
16
               We are not going to play some game where
17
      you get the last few minutes of the day to ask
18
      questions that you want to ask to prevent your
19
      need from coming back for another day. I will
20
      not agree to that. You want me to go forward, or
21
      do you want to stop now?
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                      Baltimore, Maryland
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               MR. GRUENLOH: You told me you are not
 1
      going to allow me or stay in the room if I ask
      questions even if you do continue. So I guess we
      will stop. But it is clear to me this is a game
 4
 5
      you are playing.
 6
               MR. FURR: Okay, we'll stop now.
 7
            (Examination suspended -- 5:31 p.m.)
 8
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10 11 12 13 14 15 16 17 18 19 20 21	COURT REPORTING CONCEPTS, INC. Baltimore, Maryland Phone (410) 821-4888 Fax (410) 821-4889
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1 2	STATE OF MARYLAND SS:
3	I, E. D. SMITH, RPR-CRR, a Notary Public of the State of Maryland, do hereby certify that the
4	within named, personally appeared before me at
5	the time and place herein set out, and after
6	having been duly sworn by me, was interrogated by
7	counsel.
8 9	I further certify that the examination was recorded stenographically by me and this
10	transcript is a true record of the proceedings.
11	I further certify that the stipulations
12	contained herein were entered into by counsel in
13	my presence.
14	I further certify that I am not of counsel
15 16	to any of the parties, nor an employee of counsel, nor related to any of the parties nor in
17	any way interested in the outcome of this action.
18	As witness my hand and notarial seal this
19	31st Day of August, 2000.
20	My commission expires
21	November 1, 2002 Notary Public COURT REPORTING CONCEPTS, INC.
	Baltimore, Maryland
	Phone (410) 821-4888 Fax (410) 821-4889
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